

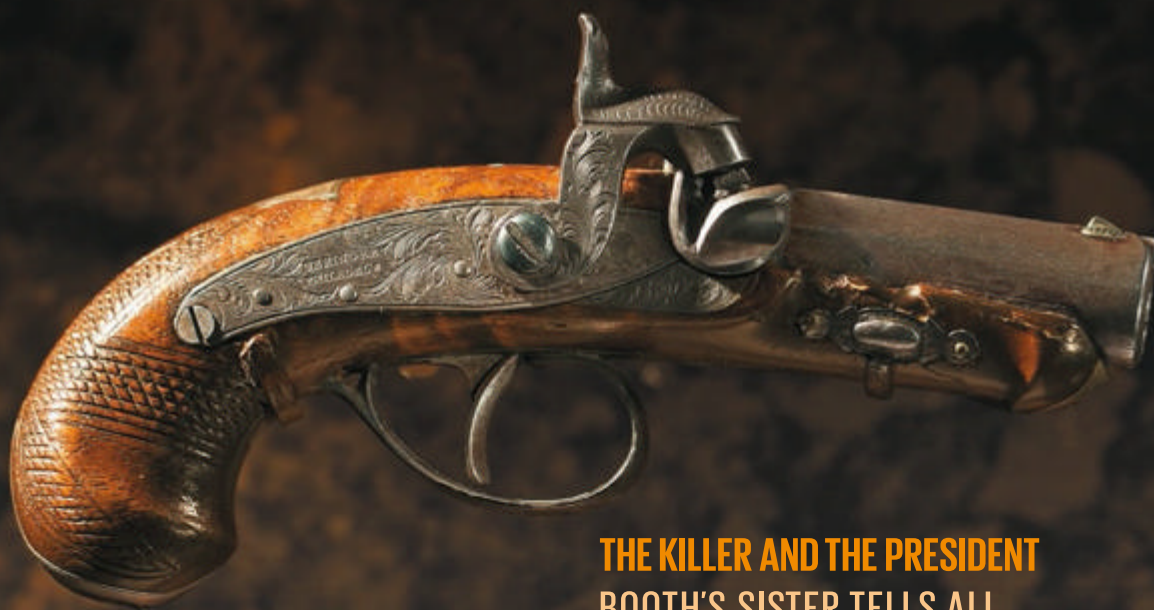
# ASSASSINATION

150  
YEARS  
AGO

# Smithsonian

March 2015 | smithsonian.com

# APRIL 14, 1865



## THE KILLER AND THE PRESIDENT

### BOOTH'S SISTER TELLS ALL

BY PAIGE WILLIAMS

### DID BOOTH'S FRIEND WARN LINCOLN?

BY TERRY ALFORD

### LINCOLN'S BLOOD RELICS

BY JAMES L. SWANSON

### WHY BOOTH WASN'T A SOUTHERN HERO

BY HAROLD HOLZER

## PLUS

A THEME PARK AT THE GRAND  
CANYON? INSIDE THE WAR  
OVER AMERICA'S ICON

DEADLY SALTWATER CROCODILES  
AND THE KIDS WHO LOVE THEM

MAKER MADNESS: THE ROOTS  
OF THE 3-D PRINTING REVOLUTION

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**COVER:**  
The assassin's weapon.  
Photo by  
Cade  
Martin

**THIS PAGE:**  
A unique  
copy of a  
broadside  
from 1865.

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### Rare Air

Ten years ago, the pioneering adventurer Steve Fossett raced down a Kansas runway in his specially designed *Global-Flyer* and took off in pursuit of a new record in circumnavigation  
BY WILLIAM HASLEY

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BY FRANZ LIDZ

## THE LINCOLN ASSASSINATION

150 YEARS AGO

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A century and a half after the president was shot, specific objects—a Deringer, a bullet, a top hat and a playbill—serve as powerful reminders of his last night  
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The spiritualist who warned Lincoln about his safety was also receiving information from an earthly source: his friend John Wilkes Booth  
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After the assassin's death, Asia Booth Clarke wrote a memoir about her younger brother, recalling his beautiful voice and “tenacious intelligence”  
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Lincoln's status as an American icon was years in the making. The initial reaction to his death was a wild mixture of grief, exultation, vengefulness and fear  
BY HAROLD HOLZER

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# Contributors



ILLUSTRATIONS BY Sara Netherway

## James L. Swanson

The author of *Manhunt: The 12-Day Chase for Lincoln's Killer*, a *New York Times* best seller, and its sequel, *Bloody Crimes: The Chase for Jefferson Davis and the Death Pageant for Lincoln's Corpse*, is an Edgar Award-winning writer and serves on the advisory council of the Ford's Theatre Society. He's also a significant private collector of Lincolnia (p. 28). His favorite original artifact is a special lock of the 16th president's hair. "It is the saddest, most intimate and most emotional relic of the assassination," says Swanson. "It transports me right back to Lincoln's bedside on the morning he died."

## David Roberts

A veteran mountain climber and author of 27 books, Roberts often hikes the untraveled paths of the Grand Canyon (p. 58). "It is one of the most pristine, beautiful and dramatic natural landscapes in the world," he says. Roberts has also written about Cochise, Geronimo, the Apache and the Anasazi. His latest book, *The Lost World of the Old Ones*, which chronicles archaeological discoveries in the ancient Southwest, is due out this spring.



## Cade Martin

For his photographs of blood relics from the Lincoln assassination, Martin says he tried to view the objects from a fresh angle and used continuous light to create a cinematic effect. "My favorite object to photograph was the hat," he says. "It's such an iconic image, and there it was, right in front of me." Martin, who describes his style as "clean, minimalist and cinematic," has worked for Tommy Hilfiger, "America's Next Top Model" and Discovery Channel.

## Paige Williams

A former Nieman fellow at Harvard and the 2008 winner of the National Magazine Award for feature writing, Williams is an associate professor at the Missouri School of Journalism and a contributing writer at the *New Yorker*. Her first story as a *Smithsonian* correspondent looks at the little-known memoir by Asia Booth Clarke (p. 46): "Her impressions of her brother's personality," says Williams, "were a vain attempt to resurrect his reputation."

## Terry Alford

An adviser to Steven Spielberg's film *Lincoln*, the history professor at Northern Virginia Community College was "thunderstruck" to discover that John Wilkes Booth and Mary Lincoln shared a common interest in spiritualism and consulted the same spiritualist, Charles Colchester (p. 40). "It was pretty amazing when I made the connection. It provides a previously unknown link between Lincoln and Booth." Alford's biography *Fortune's Fool: The Life of John Wilkes Booth* will be published in April.

## Bill Hatcher

When he went to photograph the confluence of the Colorado and Little Colorado rivers at the heart of the Grand Canyon, Hatcher was surprised to learn that the road he had hoped to travel on his mountain bike had been turned into a foot-access-only path. "It was 15 miles one way so I started walking at 1 p.m. and got there around sunset. By the time I was ready for the 15-mile hike back, the temperature was below freezing and it was windy," he says. "It was, physically and mentally, the most difficult part of the shoot." Hatcher has been photographing the Grand Canyon for 30 years, including a cover shot for *Smithsonian* in 2006. His work has also been featured in *National Geographic*, *Outside*, *Newsweek* and *Paris Match*.



## Veronique Greenwood

Even though most people have heard of Typhoid Mary, "not many people actually remember her story," the author says (p. 9). "I want people to understand that it's more complicated than it seems at first. She's often painted as a villain, but I'm not so sure the villains weren't the health officials." Greenwood, who specializes in science writing, has covered everything from cellular mechanics to quantum physics for *Discover*, *Popular Science* and *Scientific American*.





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# CULTURAL JOURNEYS

## TURKEY



Gallipoli Memorials  
Photograph  
Mustafa Dedeoğlu

**A**long the beaches and insurmountable cliffs of the Aegean's Dardanelles, the storied history of Turkey will come to life with the memory of warriors lost in epic battles that changed the fate of nations.

But those remembered warriors aren't from the famous 3,000-year-old Trojan War immortalized in Homer's *Iliad* and modernized in numerous Hollywood blockbuster movies.

This year marks the 100th anniversary of the World War I Battle of Gallipoli, which

commenced with a naval victory by the Turkish troops on March 18, 1915 and expanded to land battles on April 25.

It was here, where the beauty of Helen launched a thousand ships in the 13th Century B.C. and Allied forces were defeated by Mustafa Kemal Atatürk - eventual founder of the Republic of Turkey.

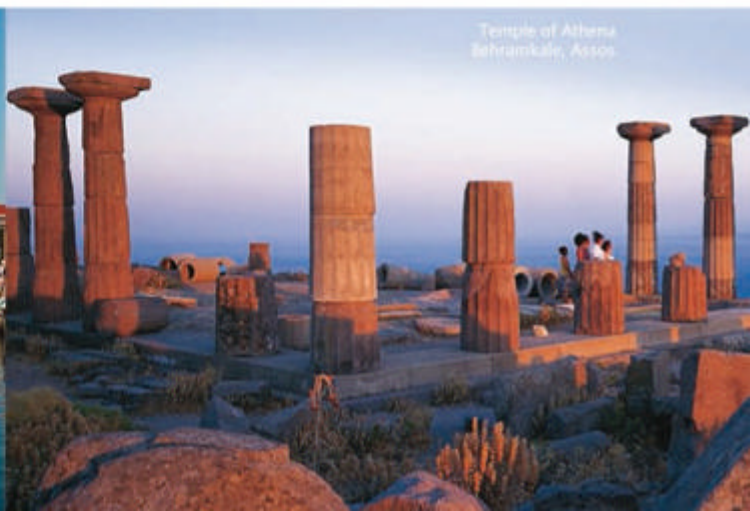
Today, the province of Çanakkale is home not to armies of soldiers but armies of visitors on a cultural journey to experience

the final resting place of those souls stranded in Turkey's history books.

Where the Marmara meets the Aegean, the island of Bozcaada is a landscape of pastoral fields, sweeping seaside vistas and vineyards. The fishing enclave of Behramkale shares the seafront with the Hellenistic city of Assos. In the Aegean's north are the olive groves of Ayvalik and Mount Ida where the Gods watched the Trojan War.



Bozcaada Harbour and Castle



Temple of Athena  
Behramkale, Assos





Turkey

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AIRLINES



Çanakkale, Turkey

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# Discussion

Great long, encouraging article! Fingers crossed for cubs! Inside the attempt to reintroduce a wild tiger to Siberia...

@ninaberry ON TWITTER

**FROM THE EDITORS** *Cornel West's essay about Malcolm X and Martin Luther King Jr. sparked a lively discussion about the two revolutionary leaders. As Ali Abdulkhaliq says on Facebook, "I agree, you can't talk about one without talking about the other. However, I believe they were yin and yang." Amanda Foreman's column about Chinese foot-binding received hundreds of shares on Facebook and moved some readers to express disgust at the practice. It might seem shocking, Jo Farrell, the photographer, said on Facebook, but even today cultures engage in radical "body modification," including the so-called toe tuck, or Cinderella procedure—cosmetic surgery to alter the shape of a woman's foot so she "can wear pointy shoes." Other readers objected to the Marquis de Sade article, saying that such a "depraved character" did not deserve space in the magazine. Overall, Wayne Davis wrote of the issue, "Each and every article opens unique doors of exploration."*

## Different Doodles?

I enjoyed the article about the doodles ["Annals of Doodology"] found in the margins of medieval manuscripts, but noticed that the author stuck with male nouns and pronouns when referring to the scribes. In fact, copying and illuminating texts was an industry for nuns as well as monks, and was one way they supported themselves and their convents. I wonder if their doodles were different from those of the gentlemen?

**Katherine Roddy**  
REDWOOD CITY, CALIFORNIA

## Captive Tigers

As beautiful as they are ["America's Tiger Problem"], I would rather know they are safe, preserved and wild. I don't feel the necessity to see them in person; they need to be left as natural creatures.

**Liza Anderson-Melcher**  
ON FACEBOOK



It's wonderful to preserve in captivity animals that are essentially extinct in the wild. Why this is castigated or widely considered problematic is puzzling to me.

**Chad Whitney**  
ON FACEBOOK

## Do Not Pass Go

Readers of the secret history of Monopoly should know that the mis-transcribed "Marvin Gardens" property was not a "neighborhood in Atlantic City," as stated in "Game Changer" [January 2015]. The real Marvin Gardens is a section of nearby Margate that borders Venter, hence the originally intended MarVen Gardens. It's also the only Monopoly property that did not have a physical presence in Atlantic City, at least in the 1930s.

**Alan Schindler**  
PHILADELPHIA, PENNSYLVANIA

## Searching for Earhart

Your article ["The Lady Vanishes," January 2015] portrayed our thousand-plus-member nonprofit organization The International Group for Historic Aircraft Recovery as a one-man-show. Nothing could be further from the truth. I am the spokesperson for a team of historians, archaeologists

and forensic experts who have delivered real progress in the search for a solution to the mystery. I invite your readers to judge the evidence for themselves by reviewing the wealth of material on our website, [www.tighar.org](http://www.tighar.org).

**Richard Gillespie**  
EXECUTIVE DIRECTOR, TIGHAR

## Clarification

In our January Ask Smithsonian column, we stated that the amount of water on earth is finite. In fact, the amount of water does vary somewhat; for example, the burning of hydrocarbons generates water, while the growth of green plants can consume it. A more complete answer would have mentioned such processes. However, they don't have much impact on the global total water content, because the amount of water involved is a tiny fraction of the volume of earth's oceans.

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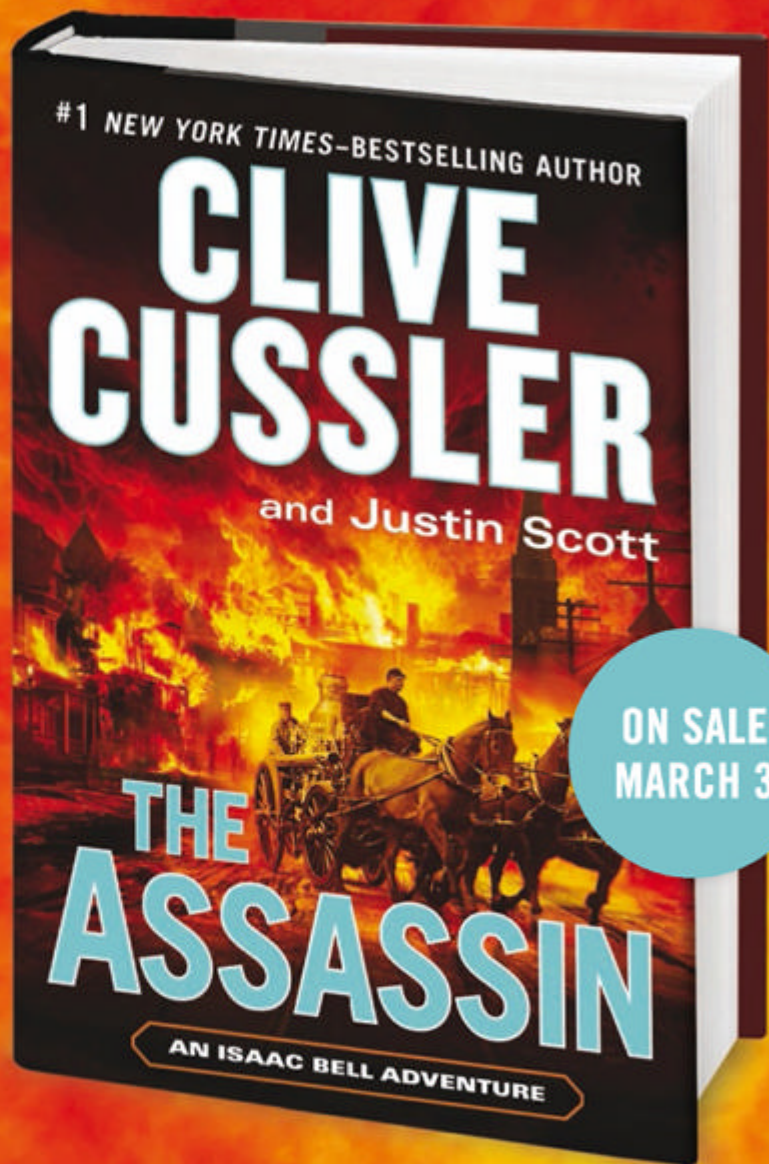


NEW FROM THE GRAND MASTER OF ADVENTURE

# CLIVE CUSSLER

**PRIVATE DETECTIVE ISAAC BELL**

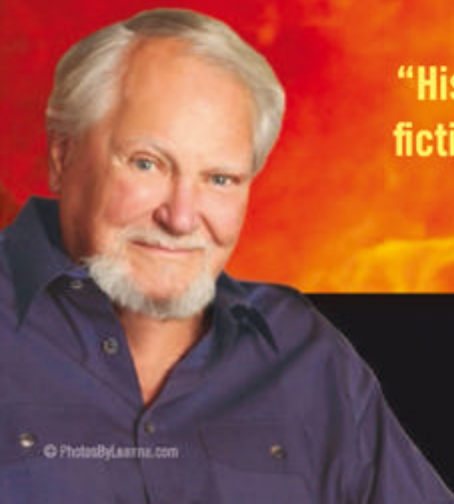
is investigating John D. Rockefeller's Standard Oil monopoly, but the case takes a deadly turn. A sniper begins murdering Standard Oil's opponents, and soon the assassin—shooting with extraordinary accuracy—kills Bell's best witness. Who is the assassin, and for whom did he kill? Bell tracks his phantomlike adversary from Kansas and Texas to Washington, D.C., and New York, then to Russia's war-torn oil fields, and back to America for a final, desperate confrontation—the most explosive one of all.



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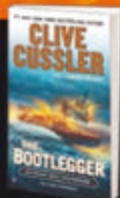
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# Phenomena

A CURATED LOOK AT SCIENCE, HISTORY & CULTURE

## Fever Pitch

The frightening legacy of Typhoid Mary

by Veronique Greenwood

**One March day in 1907, a man appeared at the Park Avenue brownstone where 37-year-old Mary Mallon worked as a cook. He demanded a little bit of her blood, urine and feces. "It did not take Mary long to react to this suggestion," the man later wrote of the encounter. "She seized a carving fork and advanced in my direction."**

The man with the strange request was George Soper, a sanitary engineer investigating a typhoid outbreak at a house in Oyster Bay, Long Island, where Mallon had worked. Soper believed that Mallon was a healthy carrier of the disease, a relatively new idea at the time. Later, he returned, and after evading authorities for five hours Mallon was betrayed by a scrap of her dress, caught in the door of her hiding place.

When she tested positive for typhoid bacteria, the Department of Health forcibly moved her to North Brother Island, a dot of land in the

**New York saw 4,500 annual cases by 1907. Mallon was linked to 47, and 3 deaths.**

### AMERICAN ICON



East River just off the Bronx that housed a quarantine facility. She was released in 1910, after swearing she wouldn't cook professionally again. Five years later, she was found working in the kitchen at a hospital where a typhoid outbreak was underway. This month marks 100 years since Typhoid Mary was apprehended for the second and final time, living the next 23 years—the rest of her life—under quarantine.

Mallon's legend grew almost immediately. A newspaper illustration during her first imprisonment conveyed the public's morbid fascination with her: An aproned woman casually drops miniature human skulls into a skillet, like eggs. Today, the name "Typhoid Mary" stands for anyone who callously spreads disease or evil. There's even a Marvel comic book villain named after her: a female assassin with a vicious temper.

But the real story is more complicated than the caricature. Historians such as Judith Walzer Leavitt, author of *Typhoid Mary: Captive to the Public's Health*, point out that by the time of her second imprisonment Mallon was far from the only known carrier. There were thousands across the country and hundreds in New York, and today we know that being a carrier of disease is not that unusual: Up to 6 percent of people who've had typhoid,

which is still common in the developing world, can spread it long after they've recovered, even if they exhibited few or no symptoms, says Denise Monack, a microbiologist at Stanford. Monack has shown that genetic mutations might allow bacteria to climb unnoticed into immune cells, where they take up long-term residence.

So why was Mallon alone among carriers imprisoned for life? "That's the million-dollar question that nobody can answer," says James Colgrove, a professor of sociomedical sciences at Columbia. It might have been because she was female, Irish, uncooperative and without a family. Today Mallon's case is archetypal in bioethics literature, as scholars debate when the government is justified in depriving someone of her freedom for a perceived greater good—an issue with renewed public resonance when health workers returning from Ebola-ravaged West Africa are quarantined against their will. But Mallon's case also endures as a symbol of a transitional moment, before antibiotics, when microbes were first revealing themselves to science. Neither Mallon nor the public quite understood what she was being accused of, which must have felt like something akin to thought crime.

Mallon died in 1938, after more than two decades on North Brother Island. She never lost the sense of persecution she evinced in a 1909 letter to a lawyer, feeling herself a "peep show for every body." The medical staff and residents, she wrote, would see her and say, "There she is, the kidnapped woman."

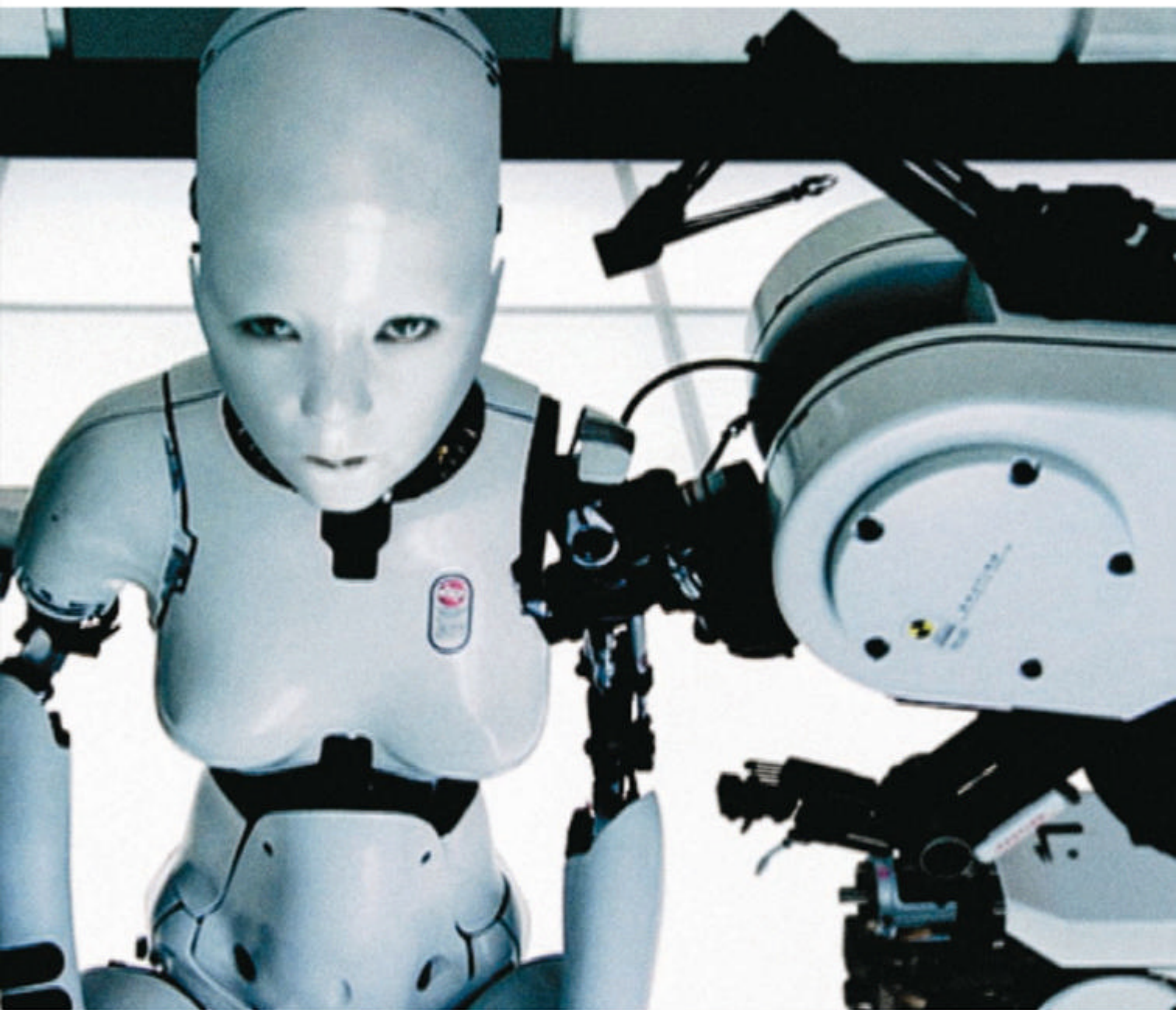


## iBjörk

In a new exhibition, a pop artist ahead of her time faces a disquieting subject—artificial love







## ART

**As if her eccentric vocals and style of dress** weren't futuristic enough, the Icelandic pop star **Björk** cast herself as a freshly assembled android in her classic hit video "All Is Full of Love." The video, part of a major Björk retrospective opening March 8 at the Museum of Modern Art in New York, climaxes with Björk passionately kissing another android, a moment that is simultaneously intriguing and discomfiting. "Love is seen as the most human emotion in Western cultures, and

not something you would associate with technology," says musicologist Nicola Dibben, who has collaborated with Björk on other projects. In the wake of recent advances in affective computing and social robotics, thinkers such as Stephen Hawking and Elon Musk have warned of the dangers of advanced artificial intelligence. They fear a rise of the machines. But Björk's video shows a subtler takeover. Robot love could slowly erode what makes us human. —SABA NASEEM

# Up to Their Ears

An anatomy lesson aids scientists studying the Terracotta Army



**When farmers digging a well** in 1974 discovered the Terracotta Army, commissioned by China's first emperor two millennia ago, the sheer numbers were staggering: an estimated 7,000 soldiers, plus horses and chariots. But it's the huge variety of facial features and expressions that still puzzle scholars. Were standard parts fit together in a Mr. Potato Head approach or was each warrior sculpted to be unique, perhaps a facsimile of an actual person? How could you even know?

Short answer: The ears have it. Andrew Bevan, an archaeologist at University College London, along with



## ARTIFACT

colleagues, used advanced computer analyses to compare 30 warrior ears photographed at the Mausoleum of the First Qin Emperor in China to find out whether, statistically speaking, the auricular ridges are as “idiosyncratic” and “strongly individual” as they are in people.

Turns out no two ears are alike—raising the possibility that the figures are based on a real army of warriors. Knowing for sure will take time: There are over 13,000 ears to go. —ELIZABETH QUILL



### AURAL ELEGANCE

With a rounded top and a rounded lobe, this ear is among the most pleasing to the eye. The rib that runs up the center of the outer ear, called the antihelix, forks into two distinct prongs, framing a depression called the triangular fossa.



### LOBE LIKE NO OTHER

Among the odder in shape, this ear has a surprisingly squared lobe, a heavy top fold (known as the helix), no discernible triangular fossa and a more pronounced tragus (that flat protrusion of cartilage that protects the ear canal).



### EAR MARKS

This ear belongs to a warrior with the inscription “Xian Yue.” “Yue” likely refers to the artisan who oversaw its production, presumably from Xianyang, the capital city. Researchers haven’t yet found any correlation between ear shape and artisan.





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## SMALL TALK

## Zoe Cormier

Author of *Sex, Drugs and Rock 'n' Roll: The Science of Hedonism and the Hedonism of Science*, to be published in the U.S. on March 10

### What animal has the strangest sex life?

My favorite is *Limax maximus*, a common garden slug: a hermaphroditic pair will crawl up a tree, suspend themselves on a rope of slime and evert their sex organs to form a beautiful, flowering apparatus.

### Is hedonism strictly human?

Absolutely not. Bighorn sheep wander along cliff edges to nibble hallucinogenic lichen. Elephants are said to congregate to consume the rotting fruit of the marula tree. And reindeer will change their migratory paths to feed on speckled red fly agaric mushrooms.

### Which is more fundamental, language or music?

The Babje flute, fashioned from the femur of a bear, has been carbon-dated to 40,000 years old. So how far back were we making drums or just shouting and clapping? As some anthropologists put it: "We sang before we spoke."

### Does human pleasure depend on other people?

Even if you enjoy solitary pursuits—playing music, reading books, getting high and staring at the ceiling—you are usually enjoying other people's labor: instruments, ideas, chemicals, and so on. Even practiced meditators learned their craft from the experiences of others.

# Hoofing It

A bison that was nearly extinct is set to return to the United States

**Wood bison aren't the most accommodating of animals.** When bothered, these super-sized versions of America's sweetheart, the plains bison, can become as solid as Stonehenge, refusing to budge, or they might take off running—at up to 40 miles per hour. It's an impressive feat for North America's largest land mammal (bulls weigh up to 2,600 pounds), but it's exactly the type of balky behavior that Tom Seaton, a mukluks-wearing biologist with Alaska's fish and game department, is trying to avoid.

Beginning later this month, Seaton will chaperon 100 bison, bred to be genetically diverse to boost their shot at survival, across nearly 400 miles to a new home in Alaska's wilderness, where they have not lived in the wild for more than a century.

Some 150,000 wood bison or more once roamed the boreal forests of Alaska and northwestern Canada, grazing in meadows between vast expanses of trees (thus the "wood" in their name). But overhunting, habitat loss and

interbreeding with plains bison wiped out the wood bison, except for just 200 or so near the border of Alberta and the Northwest Territories.

Now they're coming back. Following a successful population recovery program in Canada, biologists brought the bison into the States, transferring beasts from Canada's healthy stock and breeding them at the Alaska Wildlife Conservation Center, outside Anchorage.

Making the trip in Seaton's care are 50 cows (many pregnant), 20 two-year-olds and 30 calves. They'll travel most of the way by cargo plane. A restless bison is quite a force, so they'll be packed in retrofitted steel shipping containers that restrict their movement. The final leg, though just five miles, could take a day or more. The bison, led by Seaton and a small crew, will hoof it across the frozen Innoko River. Full-size bulls confined in containers could become anxious, and brawly after deplaning, so they'll arrive by barge in May or June.

If all goes well, by later this

year, the bison will be feeding across 500 square miles between the Innoko and Yukon rivers. Biologists say the grazing will break up the coarsest grasses, clearing the way for the return of birds and small mammals that prefer a more open habitat.

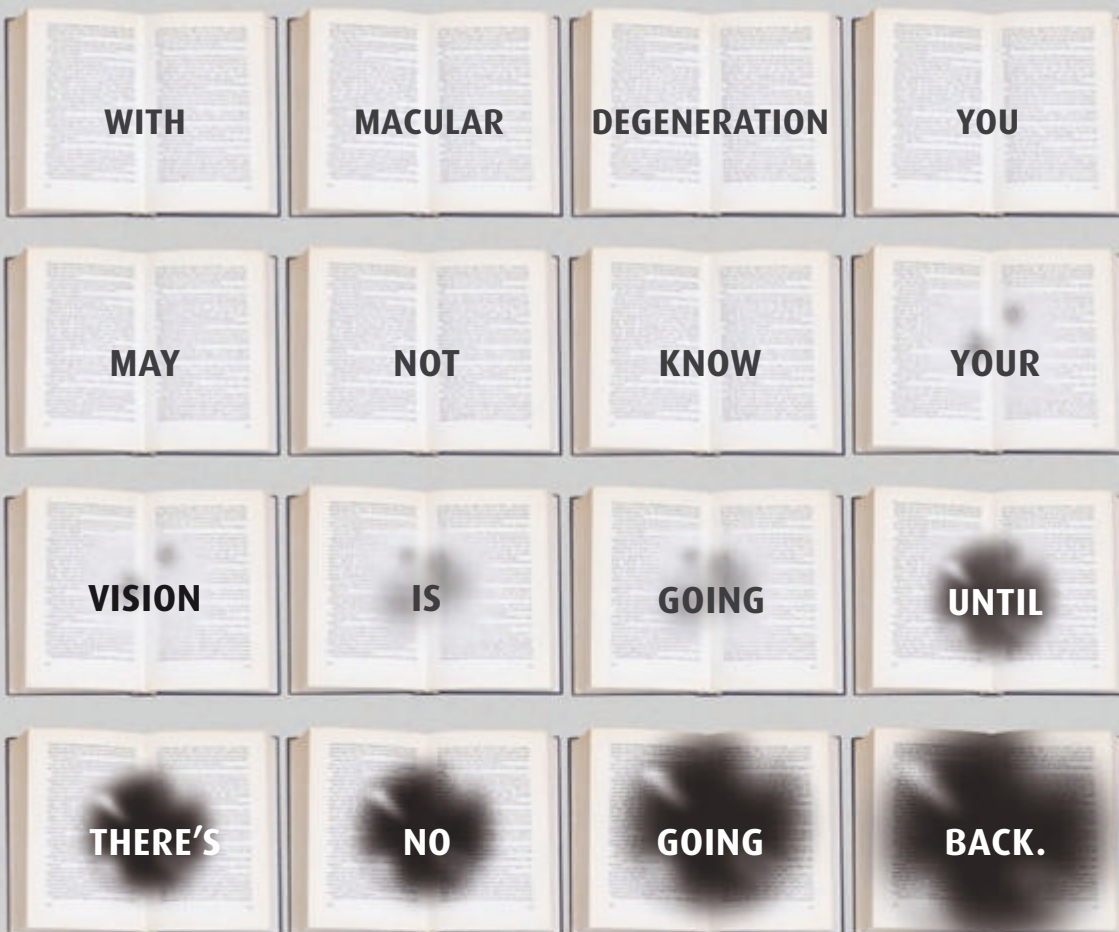
Once the herd grows in size, native Alaskans living in four villages surrounding the range will be allowed to hunt the animals for food. Local kids from the village of Anvik, according to letters to the U.S. government in support of the project, are already looking forward to a break from moose.

First, though, the bison have to get there. "We have to be adaptable," says Seaton. "Bison aren't following the rules." —JENNA SCHNUER

## WILDLIFE





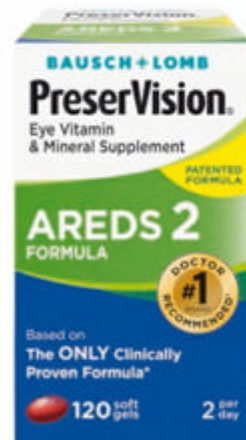


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# Tales From the Crypt



DNA from Richard III's bones revealed two instances of royal infidelity since the 14th century.

**The last time Richard III was** buried in Leicester, England, he had been taken from a battlefield, slung naked over a horse, stabbed in the buttocks with a dagger and thrown into a shallow grave. That was late August 1485. On Thursday, March 26, 2015, Richard will be buried again. This time will be different.

We've learned a lot from Richard's bones since they were discovered two and half years ago beneath a parking lot and identified using DNA testing. The so-called "hunchback king" had idiopathic scoliosis, a curvature of the spine developed in his teenage years. Worn-away rear molars suggest that he ground his teeth. Soil samples from his grave showed that parasitic roundworms had infested his gut. Isotope anal-

ysis of his ribs revealed his banqueting tastes: peacock, heron, swan, lots of wine. But it's not always good to be the king. Wounds to Richard's skull show that when he died, amid a frenzy of slaughter at the Battle of Bosworth, the top of his head was lopped off like a soft-boiled egg.

Now it's time to put Richard back in the ground. Following five days of pageantry, Richard's bones will be reinterred at Leicester Cathedral, in a tomb carved from stone quarried in Yorkshire, from which his branch of the Plantagenet family (the House of York) drew its name. There will be a solemn tour of the countryside, services in the Catholic and Anglican traditions, public viewings of the coffin and an appearance from a (liv-

ing) royal at the final burial ceremony.

Seem novel? Think again. The English have a tradition of ceremonial royal reburial going back nearly 1,000 years. In 1269 the remains of Edward the Confessor, England's only canonized monarch, were moved to Westminster Abbey. Nine years later the monks of Glastonbury Abbey reinterred King Arthur and Queen Guinevere—a slick play for tourism, surely not lost on Leicester in planning its ritual of medieval re-enactment. In 1413 Henry V held a parade for the transport of Richard II's body to Westminster Abbey in a monumental act of political reconciliation. (Henry's father had murdered Richard, so it was the least he could do.)

But with Richard III bur-

ied, who's next to dig up? DNA tests could likely identify whether the two children's skeletons sealed in an urn at Westminster are those of the disappeared Princes in the Tower, sons and heirs to King Edward IV—though perhaps fall short of answering whether they were murdered by their uncle Richard III. Opening the tomb of King John (d. 1216) might tell us if the villain of the Magna Carta died after being poisoned by a monk (as is sometimes claimed) or of dysentery. Finding the skeleton of Edward II inside a lead coffin in Gloucester Abbey could confirm that he died in 1327—or provide credence, if the bones are not his, to the story that he escaped to Italy and, as some historians claim, lived as a hermit.

Sadly for the curious, these tombs will likely stay shut. Despite what we might learn, in our scientific age, it takes finding a long-dead monarch under a parking lot to dispel our modern squeamishness about meddling with the dead. Until that changes, only pageantry remains. —DAN JONES

## HISTORY







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**It took three years of development and \$26 million in advanced Swiss-built watch-making machinery to create the *Magnificat II*.** Look at the interior dials and azure-colored hands. Turn the watch over and examine the 27-jeweled automatic movement through the exhibition back. When we took the watch to George Thomas (the most renowned watchmaker and watch historian in America), he disassembled the

*Magnificat II* and studied the escapement, balance wheel and the rotor. He remarked on the detailed guilloche face, gilt winding crown, and the crocodile-embossed leather band. He was intrigued by the three interior dials for day, date, and 24-hour moon phases. He estimated that this fine timepiece would cost over \$2,500. We all smiled and told him that the Stauer price was less than \$90. He was stunned. We felt like we had accomplished our task. A truly magnificent watch at a truly magnificent price!

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# Your Questions Answered by Our Experts

**Do the barcodes or QR codes on my bank statements and utility bills carry any sensitive personal information?** *Diane Hunt, Burlington, Washington*

The alphanumeric characters stored in a barcode or QR code could convey anything—I've sent some nerd friends birthday greetings as QR codes—but they commonly just contain a website address, sometimes with a tracking code. You can get a free barcode reader app on your smartphone and read the code, but I'd generally recommend caution in checking any link that comes up before following it.

*Sebastian Chan, director,*

*digital and emerging media, Cooper Hewitt, Smithsonian Design Museum*

**If you are standing exactly at the North Pole, can you walk away in any direction other than south?**

*Penny Bennett, Seneca, South Carolina*

No. Any step would be toward the south. After that first step, you could go east or west by walking around the pole. But finding the exact spot would be tricky on the ice floating on the Arctic Ocean. It is simpler at the South Pole, where the Antarctic ice rests on land and moves much more slowly. An actual pole marks that spot. *Andrew Johnston, geographer, Center for Earth and Planetary Studies, National Air and Space Museum*

**In early color photography, were the Lumière brothers' autochrome system and Eugene Ives' photochromoscope system essentially the same?** *J.D. Sutton, Orlando, Florida*

Both were developed roughly at the turn of the 20th century, but they differed substantially. The Lumières' method, patented in the United States in 1906, used plates coated with an emulsion containing dyed grains of potato starch to act as color filters; Ives' used glass color filters within a stereoscopic camera and produced 3-D images. Autochrome was much more popular. *Shannon Perich, curator of photography, National Museum of American History*

**Does dieting deteriorate muscle?** *Cassandra Hunt, Albuquerque, New Mexico*

It can. If you reduce caloric intake severely and lose weight too quickly, the body will switch to "starvation" mode, conserving fat stores and deriving energy from muscle. But moderate decreases in caloric intake stimulate the loss of much more fat than muscle. When we formulate weight-loss diets at the zoo, we make incremental decreases over long periods

of time to ensure slow, steady and healthy changes in body condition. *Erin Kendrick, clinical nutritionist, Department of Nutrition Science, National Zoo*

**Why do tree species lose their leaves at different times?** *Jack A. Elder, Midvale, Utah*

Cooler and shorter fall days trigger a hormonal response in deciduous trees, including the production of the hormone auxin in leaves and branches. The balance of branch and leaf auxin affects when leaves drop, and that balance varies from species to species. *Greg Huse, arborist and tree collection manager, Smithsonian Gardens*

ILLUSTRATION BY **Sophie Casson**



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# Duplication Nation

Decades before 3-D printers brought manufacturing closer to home, copiers transformed offices, politics and art

BY CLIVE THOMPSON

illustration by Kotryna Zukauskaite

R

Recently I

visited Whisk, a Manhattan store that sells kitchen goods, and next to the cash register was a strange, newfangled device: a 3-D printer. The store bought the device—which creates objects by carefully and slowly extruding layers of hot plastic—to print cookie cutters. Any shape you can think of, it can produce from a digital blueprint. There was a cutter in the shape of a thunderbolt, a coat of arms, a racing car.

“Send it in the morning and we’ll have it ready by lunch,” the store clerk told me. I wouldn’t even need to design my own cookie cutter. I could simply download one of hundreds of models that amateurs had already created and put online for anyone to use freely. In the world of 3-D printers, people are now copying and sharing not just text and pictures on paper, but physical objects.



## TECHNOLOGY COPYING

Once, 3-D printers were expensive, elite tools wielded by high-end designers who used them to prototype products like mobile phones or airplane parts. But now they're emerging into the mainstream: You can buy one for about \$500 to \$3,000, and many enthusiasts, schools and libraries already have. Sometimes they print objects they design, but you can also make copies of physical objects by "scanning" them—using your smartphone or camera to turn multiple pictures into a 3-D model, which can then be printed over and over. Do you want a copy of, say, the Auguste Rodin statue *Cariatide à l'urne*—or maybe just some replacement plastic game pieces for *Settlers of Catan*? You're in luck. Helpful folks have already scanned these objects and put them online.

the same movements, creating a mechanical copy. Steam-engine pioneer James Watt created an even cruder device that would take a freshly written page and mash another sheet against it, transferring some of the ink in reverse. By the early 20th century, the state of the art was the mimeograph machine, which used smelly ink to produce a small set of copies that got weaker with each duplication. It was imperfect.

Then in 1959, Xerox released the "914"—the first easy-to-use photocopier. The culmination of more than 20 years of experimentation, it was a much cleaner, "dry" process. The copier created an electrostatic image of a document on a rotating metal drum, and used it to transfer toner—ink in a powdered format—to a piece of paper, which would then be sealed in place by heat. It was fast, cranking out a copy in as little as seven seconds. When the first desk-size, 648-pound machines were rolled out to corporate customers—some of whom had to remove doors to install these behemoths—the era of copying began.

### Artists, too, flocked to the device, thrilled by the high-contrast, low-fi prints it produced—so unlike either photography or traditional printing. Photocopying had an aesthetic.

As 3-D printing gets cheaper and cheaper, how will it change society? What will it mean to be able to save and share physical objects—and make as many copies as we'd like? One way to ponder that is to consider the remarkable impact of the first technology that let everyday people duplicate things en masse: The Xerox photocopier.

**For centuries,** if you weren't going to the trouble of publishing an entire book, copying a single document was a slow, arduous process, done mostly by hand. Inventors had long sought a device to automate the process, with limited success. Thomas Jefferson used a pantograph: As he wrote, a wooden device connected to his pen manipulated another pen in precisely

moths—the era of copying began.

Or more accurately, the explosion of copying began. Xerox expected customers would make about 2,000 copies a month—but users easily made 10,000 a month, and some as many as 100,000. Before the 914 machine, Americans made 20 million copies a year, but by 1966 Xerox had boosted the total to 14 billion.

"It was a huge change in the amount of information moving around," said David Owen, author of *Copies in Seconds*, a history of Xerox.

Indeed, it transformed the pathways through which knowledge flowed in a corporation. Before the Xerox, when an important letter arrived, only a small number of higher-ups clapped eyes on it. The original would circulate

from office to office, with a "routing slip" showing who'd read it and where it should travel next. But after the photocopier arrived, employees began copying magazine articles and white papers they felt everyone else should see and circulating them with abandon. Wrote a memo? Why not send it to everyone? Copying was liberating and addicting.

"The button waiting to be pushed, the whirl of action, the neat reproduction dropping into the tray—all this adds up to a heady experience, and the neophyte operator of a copier feels an impulse to copy all the papers in his pockets," as John Brooks wrote in a 1967 *New Yorker* article.

White-collar workers had complained of information overload before. But the culprit was industrial processes—book publishers, newspapers. The photocopier was different. It allowed the average office drone to become an engine of overload, handing stacks of material to bewildered colleagues. "You'd have this huge pile of meeting documents," Owen says with a laugh, "and nobody has read them."

Copying also infected everyday life. Employees would sneak their own personal items on the machine, copying their IRS returns, party invitations, recipes. Chain letters began demanding participants not only forward the letter, but send out 20 copies—because, hey, now anyone could! And people quickly realized they could make paper replicas of physical objects, placing their hands—or, whipping down their pants, their rear ends—on the copier glass. This copying of objects could be put to curiously practical purposes. Instead of describing the physical contents of a perp's pockets when jailing him, police would just dump them onto the 914's glass and hit copy.

The bizarre welter of things being replicated made even







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the folks at Xerox worry they had unleashed Promethean forces. “Have we really made a contribution by making it easier to reproduce junk and nonsense?” as Sol Linowitz, CEO of Xerox International, fretted in *Life* magazine.

Yet for everyday people, replicating nonsense was the best part of the copier—an illicit thrill. Hiding behind the anonymity of a duplicated document, office workers began circulating off-color jokes and cartoons. Sometimes it was fake memos that savagely mocked the idiocy of office life—a “Rush Job” calendar with jumbled dates, so a customer could “order his work on the 7th and have it delivered on the 3rd,” or an “organization chart” cartoon that consisted of an executive being kissed on the ring by a lesser executive, who also has a lesser executive

kissing his ring, and on and on. Jokes about the intelligence of various ethnic groups abounded, as did sexually explicit material. Eye-popping cartoons depicted the “Peanuts” characters having sex.

“There were these copies where you had a Rorschach blot and you had to fold it and hold it up to the light, and there were people having sex in more positions than you could imagine,” says Michael Preston, a professor emeritus of English at the University of Colorado at Boulder, who published an early collection of what he called Xerox-lore—the folklore of the copying age.

Artists, too, flocked to the device, thrilled by the high-contrast, low-fi prints it produced—so unlike either photography or traditional printing. As they showed, photocopying had an

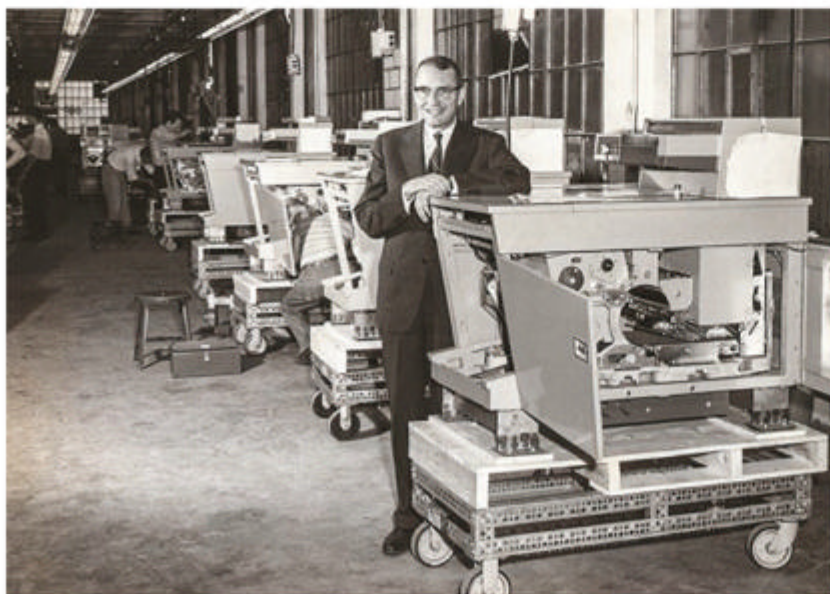
aesthetic. “When I show it a hair curler it hands me back a space ship, and when I show it the inside of a straw hat it describes the eerie joys of a descent into a volcano,” said Pati Hill, an artist who became famous for using a photocopier.

**In essence**, the photocopier was not merely a vehicle for copying. It became a mechanism for sub-rosa publishing—a way of seizing the means of production, circulating ideas that would previously have been difficult to get past censors and editors. “Xerography is bringing a reign of terror into the world of publishing, because it means that every reader can become both author and publisher,” Marshall McLuhan wrote in 1966.

This had powerful political effects. Secrets were harder to keep, documents easier to leak. Daniel Ellsberg used a copier to reproduce the Pentagon Papers (even having his children help make the replicas at a friend’s office). Fearful of the copier’s power, the Soviet Union tightly controlled access to the machines. In the United States, activists for ACT-UP—the group that fought to have AIDS taken more seriously by doctors and politicians—had a powerful impact in part because they had access to copiers. Many worked at media giants like Condé Nast and NBC, and after doing their work would run off thousands of copies of fliers and posters they’d use to plaster New York City for AIDS-awareness campaigns.

“They’d go in to do the paste-up for all these magazines, and then they would make thousands of posters and fliers that were so integral to what ACT-UP was doing,” notes Kate Eichhorn, an assistant professor at the New School who is writing a book about copiers. “These huge corporations were underwriting this radical activism.” This same force catalyzed the world of alternative culture: Fans of TV shows, sci-fi or movies began to produce zines, small publications devoted to their enthusiasms. The Riot Grrrl movement of young feminist musicians in the ’90s, appalled

**Secrets were harder to keep, documents easier to leak. Daniel Ellsberg used a copier to reproduce the Pentagon Papers. The Soviet Union controlled access to the machines.**



Xerox founder Joe Wilson with the 914, which could make copies up to 9 by 14 inches.



by mainstream media's treatment of women, essentially created their own mediasphere partly via photocopiers. "Beyond its function as an 'office tool,' the copier has, for many people, become a means of self-expression," said the authors of *Copyart*, a 1978 guide to DIY creativity.

But all that copying worried traditional authors: Surely they were losing sales if someone could copy a chapter from a book, or an article from a magazine, without paying for the original. Libraries and universities were hotbeds of so much duplication that publishers eventually took their complaints to the courts—and, in the '70s, lost. The courts, and Congress, decided that making copies for personal use was fine.

"It was really a great moment in the late '70s when it was a wonderful loosening of copyright," says Lisa Gitelman, professor of English and media studies at New York University. These days, Congress is working hard—often at the behest of movie studios or record labels—in the opposite direction, making it harder for people to copy things digitally. But back in the first cultural glow of the Xerox, lawmakers and judges came to the opposite conclusion: Copying was good for society.

**There's plenty of evidence** that 3-D printing is good, too. Already many industries are using it to create sophisticated and highly customized products. Surgeons can create 3-D-printed bone grafts modeled off someone's scanned body, and dentists are fashioning the wax models for crowns and bridges perfectly suited for a patient's mouth. Chefs are experimenting with 3-D printing foods for aesthetic effect, and last November, astronauts aboard the International Space Station began using a 3-D printer to make a tool they needed.

But how might 3-D printing affect everyday life for the rest of us? It's hard to tell right now, because they're still slow devices—it can take hours to print a complex object—and even the cheapest ones are still too pricey for mass adoption. Most printers don't

come with a scanner attached, so using them for everyday duplication is still tricky. That may soon change, because large firms like Hewlett-Packard are entering the field—and chains like Staples are beginning to put 3-D printers in stores, giving people a Kinko's-like access to this odd new technology. In a few years, getting a 3-D print or copy made might take only a few minutes and a few dollars at a store near you.

At that point, one can imagine hitting the Xerox 914 moment—when everyday people suddenly discover the pleasures of replicating objects. We might start scanning everyday objects that we often misplace—the battery-access covers on remote controls, crucial hinges or pieces of electronics—so that when things go missing, we can run off another copy. Maybe we'll scan sentimental objects, like family jewelry, so that when future 3-D printers can affordably produce complex, metal forms, we can make highly realistic copies of these mementos, too. And maybe we'll also

With 3-D printers, physical objects become just another form of information, to be traded and swapped, moving around beneath authorities' eyes.

"With 3-D printers, once someone has scanned one item, everyone can have it," says Michael Weinberg, a vice president of Public Knowledge, a digital-technology think tank. For now, the powers that be are withholding judgment. There have been only a few incidents of firms issuing legal warnings to people for making copies of their intellectual property. "We have not seen a total industry freakout yet," Weinberg notes.

Even legislators haven't regulated 3-D printers, realizing they have many potential good uses. One area that is starting to cause consternation, though, is those guns. It's not illegal to make your own gun, but the ease of gun-printing—and the plastic nature of 3-D-printed weapons—has prompted a flurry of legislation. In December 2013, Congress extended the Undetectable Firearms Act of 1988, which requires

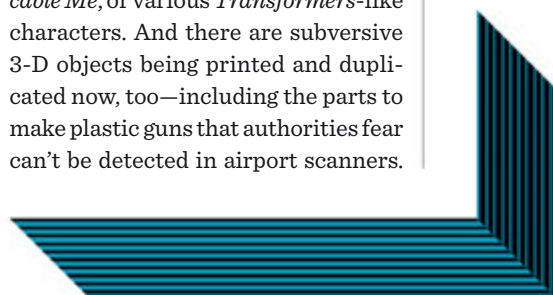
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## There are subversive 3-D objects being printed and duplicated now, too—including the parts to make plastic guns that authorities fear can't be detected in airport scanners.

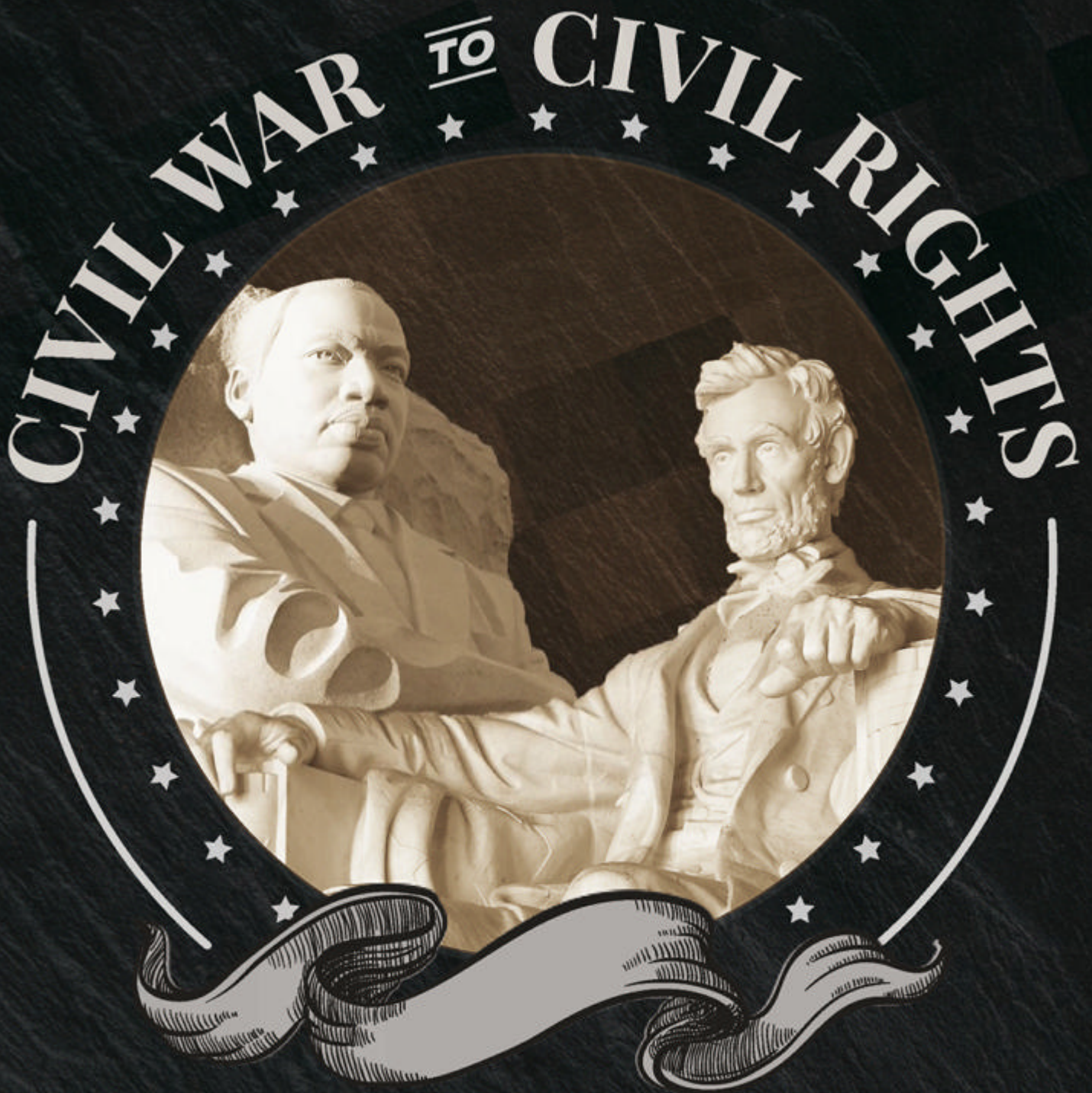
use 3-D printers for practical jokes and pranks—printing rude objects we find online and leaving them on friends' desks at work. We might get a new form of information overload: offices and homes crammed with too many weird, junky printed trinkets.

As with the photocopier, 3-D printers mean people will copy other people's intellectual property. Websites where people share their 3-D models already have plenty of objects riffing off pop culture: You can print a chess set that uses the Minions from *Despicable Me*, or various *Transformers*-like characters. And there are subversive 3-D objects being printed and duplicated now, too—including the parts to make plastic guns that authorities fear can't be detected in airport scanners.

weapons to be detectable in scanning machines. In practice, it likely means adding enough metal to a 3-D-printed gun that it shows up on, say, an airport X-ray machine. Maryland is considering a bill that would outright ban printed guns. Philadelphia passed one as well and, in California, the legislature passed a law that was later vetoed by Gov. Jerry Brown. Our society's reputation for copying and distributing edgy material precedes us, it seems—and is moving from the second dimension to the third. ○







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# The Blood Relics

EVEN NOW, 150 YEARS LATER, OBJECTS FROM THE LINCOLN MURDER PROVIDE A POWERFUL LINK TO THE EVENT

**Every April 14, on the hour of the assassination**

of Abraham Lincoln, the place where it happened is one of the loneliest historical sites in America.

I should know. I've been making disappointing anniversary pilgrimages to the scene for more than a quarter of a century. My first was in 1987, during my first spring in Washington, D.C., when my future wife and I were serving in the Reagan administration. After work, we walked to the then-seedy neighborhood surrounding Ford's Theatre and discovered Geraldine's House of Beef, a restaurant whose only attraction was a table near the front window that offered a clear view of Ford's facade on Tenth Street NW. We decided to have dinner while we waited to see what would happen. Of course, we thought, a crowd would arrive soon to honor the most beloved

*by*

JAMES L.  
SWANSON

*photographs by*

CADE MARTIN

**The .44-caliber Deringer that Booth fired at Lincoln (right) is less than 6 inches long. Easily concealed, it has been called a "pocket cannon."**







president in American history. No doubt the National Park Service, which has administered Ford's since 1933, would hold a solemn ceremony.

Nine p.m., nothing. Ten p.m.—about 20 minutes before the moment John Wilkes Booth fired his single-shot Deringer pistol at the back of the president's head and changed the nation's destiny—nothing. Then we saw movement. A station wagon turned onto Tenth Street. In it was a picture-postcard American family—two parents and two young children, a boy and a girl. As the car slowed and coasted past, the driver pointed out the window to the theater. The kids' heads

swiveled to their left and nodded up and down. The car drove on.

That was it. That was how the American people honored Abraham Lincoln on the night and at the place of his assassination. I did not realize it then, but that was the moment that would lead me to write my book *Manhunt: The 12-Day Chase for Lincoln's Killer*.

On all the April 14ths that followed, nothing changed at Ford's. Far from inviting people to sit vigil, the National Park Service's security guards and police discouraged nighttime anniversary visitors. In 2013, I almost got arrested trying to honor Lincoln.

Around 9 p.m. I sat, as had become my habit, on the front steps of the Petersen House, the boardinghouse where Lincoln died at 7:22 a.m. on April 15, 1865.

It, too, is administered by the National Park Service as part of the assassination historical site. I imagined the theater doors across the way bursting open and the shouting, frenzied audience of 1,500 flooding Tenth Street. I could see in my mind's eye the unconscious president as he was carried into the street. I pictured how a Petersen House resident opened the door at the top of the staircase and shouted, "Bring him in here!" and how the soldiers carried him past the very spot where I sat.

Across the street, a guard inside Ford's Theatre pushed open a plexiglass door next to her security desk and bellowed: "Get off those steps! You can't sit there. That's private property. I'll call the police." I got up and crossed the street. I explained to her that to-



See Lincoln's deathbed, Booth's "diary" and more at [Smithsonianmag.com/lincoln](http://Smithsonianmag.com/lincoln)





**The coat Lincoln wore to Ford's Theatre (above) was made for his second inauguration. His hat bore a mourning band for his son Willie, who had died in 1862.**

night was the anniversary of Lincoln's assassination. That I served on the advisory council of the Ford's Theatre Society. That I had written a book about what had happened. And those steps, I couldn't resist reminding her, belonged to the American people.

She gaped at me, uncomprehending. I returned to the Petersen House and sat down. Ten minutes later, two park service police cars pulled up. The three cops said that Officer Johnson had reported a hostile homeless man lurking about. "Lots of men sit on these steps and urinate on the house," said one of the officers. "How do we know you're

not going to do that? You've got no right to sit here." After much tense discussion, another officer rolled his eyes and advised me to enjoy the evening.

Last year, I brought two friends along as reinforcements. The country was in the middle of celebrating the 2011-15 Civil War sesquicentennial. Surely *that* would bring people out. But no. Fewer than ten people showed up. I posted a disappointed report on Twitter. And received no comments.

Things promise to be different this April 14, the 150th anniversary of the assassination. The Ford's Theatre Society and the park service will transform Tenth Street into a time tunnel that will transport visitors back to the sights and sounds of 1865. Starting the morning of April 14, the street will be

closed to traffic. Ford's will stay open for 36 hours straight to accommodate a schedule of short history plays, readings, musical performances and moments of silence. Street vendors will hawk small paper flags celebrating the fall of Richmond and the effective end of the Civil War, just as they did in 1865, right up to the moment of the assassination.

And at 10:20 p.m., all will go silent, until a bugler playing taps breaks the spell. Then, for the first time in 150 years, mourners will hold a torchlight vigil in front of the Petersen House. I will be there too, marking the climax of a lifelong fascination with the assassination of Abraham Lincoln.

I was born on February 12, Lincoln's birthday. From childhood, I received

books and souvenirs about him as gifts. When I was 10, my grandmother presented me with an engraving of Booth's Deringer. Framed with it was a clipping cut from the *Chicago Tribune* the day Lincoln died. But the story was incomplete, ending in mid-sentence. I hung it on my bedroom wall and reread it hundreds of times during my childhood, often thinking, "I want to know the *rest* of the story." I still have it today.

On weekends I begged my parents to take me to the old Chicago Historical Society so I could visit its most prized relic, Lincoln's deathbed. I longed to go to Washington to visit Ford's Theatre, and my father took me with him on a business trip there. That boyhood curiosity turned me into an obsessive lifelong collector of original Lincoln assassination documents, photographs and artifacts.

And years later, it led to the books: *Manhunt*; its sequel, *Bloody Crimes*; and even a book for young adults, *Chasing Lincoln's Killer*. I could not have written them without my personal archive. In fact, I think of myself as a crazed collector who happens to write books. My collection contains magical objects that resonate with meaning. They don't just reflect history; they *are* history. For the 150th anniversary, I've picked out my favorite Lincoln assassination relics—from my collection and others—that best bring alive what Walt Whitman called that "moody, tearful night."

## Ford's Theatre Playbill

On the morning of Friday, April 14, 1865, Mary Lincoln notified Ford's Theatre that she and the president would attend that night's performance of *Our American Cousin*. That pleased Laura Keene. The show was a "benefit" for the star actress; she would share in the profits, which would presumably grow as word of the first couple's plans spread. A few blocks away, on D Street near Seventh, H. Polkinhorn & Son printed a playbill—something to hand out on the street that day to drum up ticket sales. But that night's events invested this commonplace piece of theatrical ephemera with unparalleled significance: It

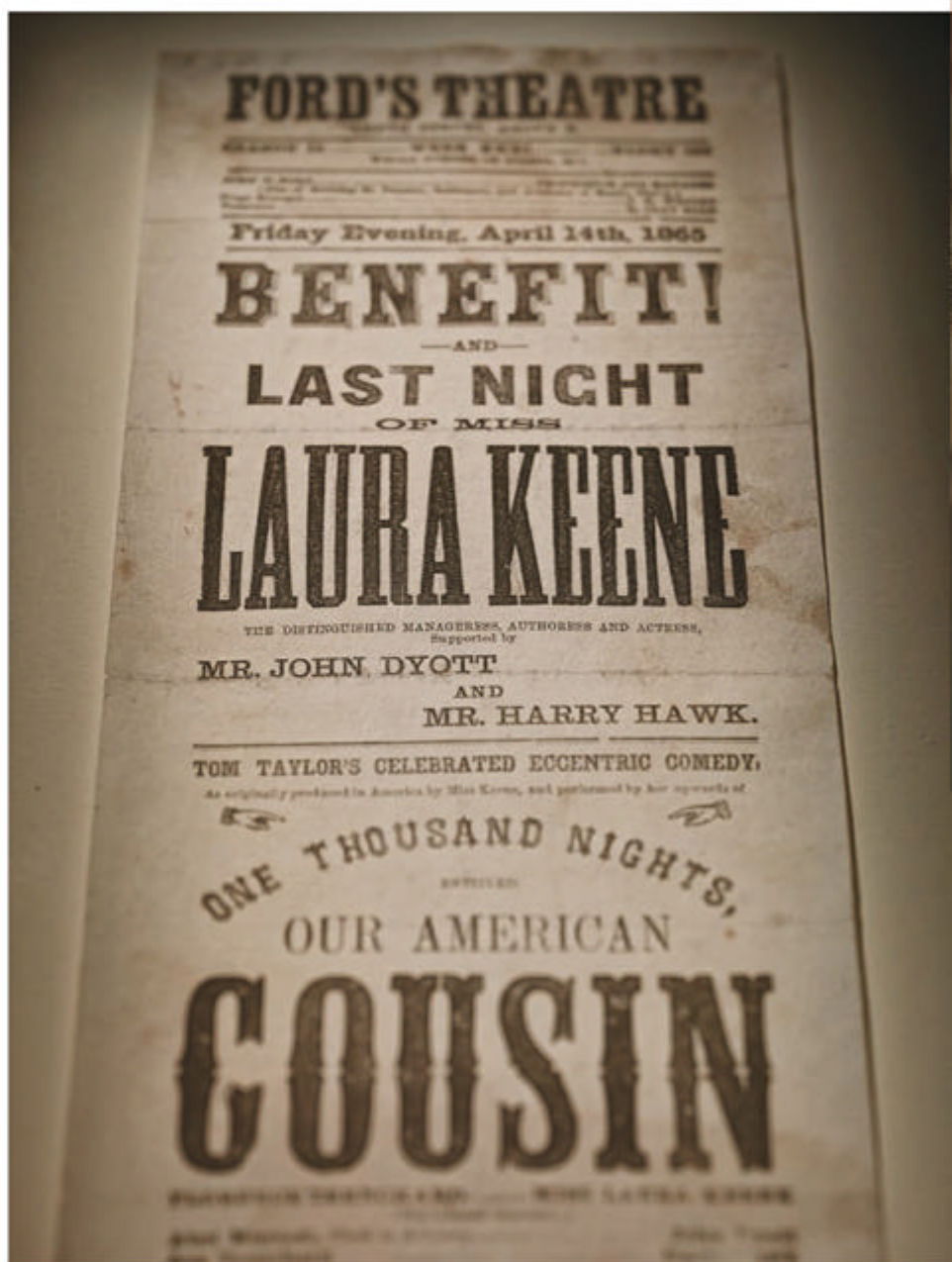
freezes a snapshot of the "before."

For me, the playbill conjures the opening scenes from one of Lincoln's happiest nights: the presidential carriage arriving on Tenth Street, and inside the theater the sound of cheers, "Hail to the Chief," laughter and hissing gaslights. It also resonates with eerie foreboding, symbolizing not only Lincoln's death, but also the end of Ford's Theatre, which would go dark for more than a century. Lincoln loved theater, and coming to Ford's. Whenever I leave my house to go there, where I often attend performances and

other events, I always glance at the playbill hanging in my hallway. It reminds me that Ford's is not just a place of death. Lincoln laughed there, too.

## Lincoln's Top Hat and Overcoat

Nothing from the president's wardrobe more potently symbolizes his identity than his top hat. Lincoln adopted one as his trademark back in Illinois, when he was a lawyer, long before he came to Washington. He chose unusually tall hats to attract attention and accentuate his height. At 6-foot-4, Lincoln







**After Booth's shot stopped the play (opposite, playbill) in the third act, Laura Keene made her way to Lincoln's side (left, her blood-stained costume).**

Charles Leale had laid Lincoln on the floor. She knelt beside the unconscious, dying president and cradled his head in her lap. Blood and brain matter oozed from the bullet wound onto her silken costume, staining its festive red, yellow, green and blue floral pattern. Like a Victorian bride who lovingly preserved her wedding dress, Keene cherished her frock from this terrible night. But it soon became an object of morbid curiosity—strangers tried to cut swatches as gruesome keepsakes—and she eventually exiled the haunted relic into her family's care. The dress vanished long ago, but miraculously five swatches survived. For more than a century, they have been legendary among collectors. The whereabouts of this example had been unknown until it surfaced in the late 1990s, and I acquired it. This one, according to an accompanying letter of provenance from Keene's grandson, was presented to a longtime family friend. The gay floral pattern remains almost as bright as the day the dress was made more than 150 years ago in Chicago by dressmaker Jamie Bullock. But the red bloodstains faded long ago to a pale rust-brown.

When I was working on *Manhunt*, I never let this swatch out of my sight while I wrote the scene describing what happened in the President's Box after the shooting. As I stared at this blood relic, I saw it all, and the paragraphs wrote themselves.

## Lincoln's Deathbed

At 7:22 and 10 seconds a.m. on April 15, after an all-night vigil, Abraham Lincoln died in a back room at the Petersen House on a bed that was too small for his frame. The doctors had had to lay him diagonally atop the mattress. Soldiers wrapped his naked body in an American flag and put him into a plain pine box—a rectangular military crate. Lincoln, the former rail-splitter, would not have minded so simple a coffin. After they took him home to the White House, sheets, pillows, towels and a

already towered over most of his contemporaries; his hat made him look like a seven-foot giant. This is the hat that he wore on April 14, and that he doffed when he stood in the President's Box at Ford's and bowed to acknowledge the jubilant audience of his fellow citizens.

Lincoln's signature color was black, and throughout his presidency he wore a white shirt, black pants and a thigh-length frock coat. And the night he went to Ford's Theatre, he wore a custom-made black wool Brooks Brothers overcoat trimmed at the collar, lapels

and cuffs with grosgrain piping. The black silk quilted lining was stitched with the outline of a large American eagle, a shield of stars and stripes and the motto "One Country, One Destiny." How eerily appropriate that when Lincoln was murdered, his body was draped in a garment writ large with the words for which he gave his life.

## Swatch of Laura Keene's Costume

After Booth fled Ford's, Laura Keene raced from the stage to the President's Box, where she discovered that Dr.



coverlet lay on the boardinghouse bed, still wet with the president's blood. Two Petersen House boarders, brothers Henry and Julius Ulke, one a photographer and the other an artist, set up a tripod camera and, with the morning sun flooding the hallway from the front door all the way back to the little rear room, photographed the scene.

### Lock of Lincoln's Hair

Within an hour after the assassination, Mary Lincoln summoned Mary Jane Welles to the Petersen House. Mary Jane, the wife of Navy Secretary Gideon Welles, was one of Mary's few friends in Washington. They had bonded over shared sadness: In 1862, Mary Jane had helped nurse 11-year-old Willie Lincoln until he died of typhoid fever; the next year, the Welleses lost their 3-year-old

son to diphtheria. On the morning of April 15, Lincoln's death room emptied of mourners (including Gideon Welles) save one: War Secretary Edwin M. Stanton, whom Lincoln called his "Mars, God of War." Stanton was an imperious and widely feared cabinet secretary, but he had loved the president, and the assassination was for him a profound personal tragedy. Alone with his fallen chief, Stanton cut a generous lock of the president's hair and sealed it in a plain white envelope. He knew who deserved the memento. After signing his name on the envelope, he addressed it "For Mrs. Welles." When she received it later that day, she inscribed the envelope in pencil in her own small, neat hand: "Lock of Mr. Lincoln's hair April 15, 1865, M.J.W."

She mounted the lock in an oval gold frame, along with dried flowers she col-

**Booth was almost as deadly with a blade (right, the knife he took into the President's Box at Ford's) as with his gun (above, the bullet that killed Lincoln).**

lected from Lincoln's coffin at the April 19 White House funeral. The card securing the relics in place behind their glass cover was calligraphed to testify that they were "Sacred to the Memory of Abraham Lincoln 16th President of the United States." This isn't the only surviving lock of Lincoln's hair. Mary Lincoln claimed one, as did several of the doctors present at the Petersen House or his autopsy. Others were purloined from Lincoln's head, and one wonders how he made it to the grave with any hair at all. But the Stanton/Welles lock, with its unparalleled provenance and interwoven tales of love and loss, is perhaps the most evocative one of all.





## \$100,000 Reward Poster

Today, it is the most famous reward poster in American history. (It is pictured on p. 1.) In 1865, it was the symbol of a failing, increasingly desperate manhunt. And when I was 19 years old, it was my first important acquisition. I had coveted one of these posters since I was 10, and when I was a sophomore at the University of Chicago I spotted one in a book dealer's catalog and ordered it at once. I bought the poster instead of a used car.

Booth shot Lincoln in front of 1,500 witnesses, escaped from Ford's Theatre, galloped away on a horse and vanished to parts unknown. The failure of several thousand pursuers to hunt down Lincoln's assassin had become an embarrassment to the government. On April 20, six days after the assassination, War Secretary Stanton proclaimed

a \$100,000 reward for the capture of Booth and two of his alleged accomplices. It was a staggering sum—the average worker was earning about \$1 a day—and the War Department printed broadsides to publicize it. Every penny of the blood money was paid, divided among a few dozen of the pursuers most credited for the capture or death of John Wilkes Booth and his accomplices.

## Defaced Photograph

The day after the assassination, technicians at the Surgeon General's photo laboratory copied a popular carte-de-visite photo of Booth and printed multiple examples for distribution to the assassin's pursuers. This copy was issued to William Bender Wilson, a telegraph operator at the War Department who was in the field during the manhunt. Wilson

inscribed its provenance on the back of the card: "This picture of J. Wilkes Booth was given to me from the War Department at Washington, D.C. whilst Booth was still a fugitive. Wm. B. Wilson." Upon learning of Booth's death, Wilson expressed his contempt for the murderer by defacing his image with a handwritten message: "... for the cause he said was a righteous one. No! Cowardly murder suited him better. And this is Chivalry is it? Like a viper he lived—like a dog died, and like a dog buried. 'Assassin.' 'Booth the accursed.'" Few other relics preserve so well the passions unleashed in April 1865.

## The Bullet That Killed Lincoln

Booth fired a one-ounce lead ball at Lincoln's head. The bullet entered below the president's left ear, bored

diagonally through his brain and stopped behind his right eye. Lincoln never regained consciousness. No autopsy was necessary to determine the cause of death, but it would have been obscene to bury the president of the United States with a bullet in his brain. It had to be dug out. Edward Curtis, an assistant surgeon at the autopsy, described the hideous work: "I proceeded to open the head and remove the brain down to the track of the ball. Not finding it readily, we proceeded to remove the entire brain, when, as I was lifting the latter from the cavity of the skull, suddenly the bullet dropped out through my fingers and fell, breaking

the solemn silence of the room with its clatter, into an empty basin that was standing beneath. There it lay upon the white china, a little black mass no bigger than the end of my finger—dull, motionless and harmless, yet the cause of such mighty changes in the world's history as we may perhaps never realize." Whenever I visit this bullet at the National Museum of Health and Medicine in Silver Spring, Maryland, I hear its echo in the basin.

### Booth's Arsenal

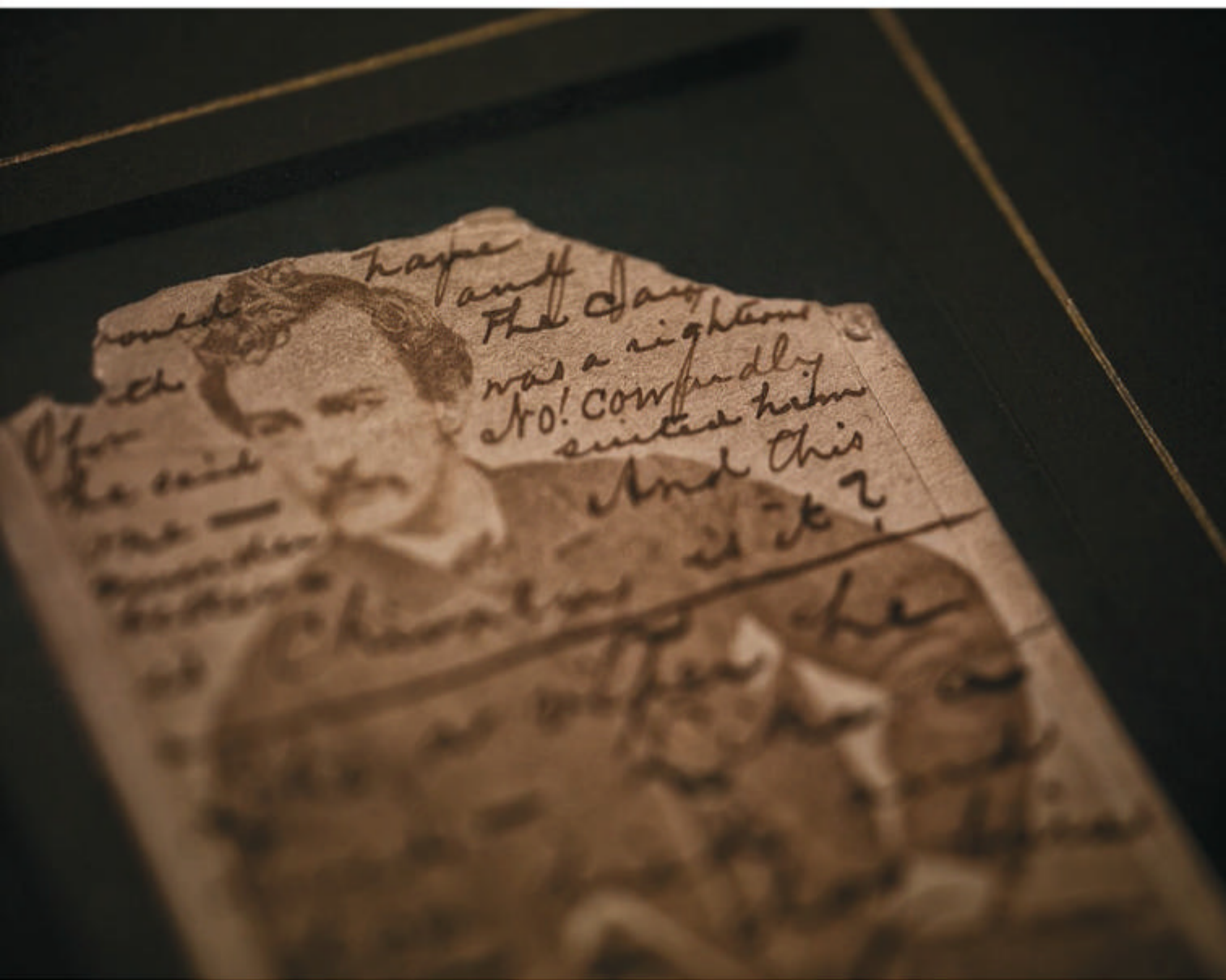
Booth's Deringer is just one of several arms he purchased for his March 1865 plot to kidnap the president and soon

deployed in his plot to kill Lincoln. Booth had two Colt revolvers and a Spencer repeating carbine with him when he was killed. He had issued a revolver and knife to George Atzerodt, who was supposed to murder Vice President Andrew Johnson. (Atzerodt got drunk and ran away, throwing the blade into the street and selling the pistol at a Georgetown shop.) Booth lent a knife and Whitney revolver to Lewis Powell, who made a bloody but failed attempt to kill Secretary of State William Seward.

**The 12-day manhunt for Booth unleashed a torrent of anger (opposite, a defaced portrait) and ended in reprisal (below, the announcement of his fate).**







(Powell broke the pistol on the skull of one of Seward's sons and used the knife to stab Seward nearly to death, along with several other members of his household.) Along with his Deringer, Booth carried into Ford's Theatre a Rio Grande camp knife, which he used to stab Lincoln's guest Maj. Henry Rathbone in the theater box, and which, after he leapt to the stage, he thrust above his head for all the audience to see as he shouted, "*Sic semper tyrannis*" ("Thus always to tyrants"). The audience was too far away to read the mottoes acid-etched onto the blood-smeared blade: "Land of the Free/Home of the

Brave"; "Liberty/Independence." How strange that the president and his assassin both embraced those sentiments.

### Booth's "Diary"

Contrary to popular belief, Booth never kept a "diary" of the Lincoln assassination. During the manhunt he carried a small bound pocket calendar for the year 1864, which contained several blank pages, and on those sheets he wrote several notorious entries. To read them today is to encounter the mind of the assassin in all its passion, vanity and delusion: "Our country owed all her troubles to him, and God

simply made me the instrument of his punishment"; "After being hunted like a dog through swamps, woods and last night being chased by gun boats till I was forced to return wet cold and starving, with every mans hand against me, I am here in despair"; "I am abandoned, with the curse of Cain upon me"; "I bless the entire world. Have never hated or wronged anyone. This last was not a wrong, unless God deems it so." The notebook takes readers back to Booth's hiding places. It is easy to hear his pencil scratching against paper as he scribbles his final thoughts. One can imagine the soldiers plundering it from



his body and rifling through its pages in the firelight of the blazing tobacco barn, or War Secretary Stanton scrutinizing it for clues about the assassination after it was brought back to Washington.

## Broadside Announcing Booth's Death

After Booth died, at sunrise on April 26, Col. Everton Conger, one of the leaders

of the patrol that had tracked him down, rushed back to Washington to report to his superior, detective Lafayette Baker. Together, at about 5:30 p.m., they went to Edwin Stanton's home to give him the news. "We have got Booth," Baker told him. The exhausted war secretary had no energy for grand language or historical pronouncements. The statement he drafted, and which a War Department

**"A hippodrome of sorrow,"** one writer called Lincoln's final journey. **A lock of hair, above, clipped by Secretary of War Edwin Stanton at the president's deathbed; a drum, right, played at his funeral, in Springfield, Illinois.**

telegrapher transmitted across the nation, contained just the news that America had been waiting 12 days to hear. A broadside repeated the report:

## COMMEMORATIVE EVENTS

**Ford's Theatre**, in addition to the April 14 event outside the theater, will open the exhibit *Silent Witnesses: Artifacts of the Lincoln Assassination*, on March 23.

**The National Museum of American History**, beginning March 23, will display the carriage that took the Lincolns to Ford's Theatre on the night of April 14, 1865.

**The Smithsonian Channel** will air a one-hour special on the assassination, *Lincoln's Last Day*, in April. Check your local listings.

**Smithsonian.com** will launch a special report anchored by a multimedia treatment of the manhunt for John Wilkes Booth.

**Smithsonian** magazine is publishing a special collector's edition on the assassination. It is available on newsstands or at 800-250-1531.

## BOOTH, THE ASSASSIN, SHOT

*War Department, Washington.*

*April 27, 9:20 A.M.*

*Maj. General Dix, New-York:*

*Booth was chased out of a swamp in St. Mary's county, Maryland, by Col. Barker's [i.e., Baker] force, and took refuge in a barn on Garrett's farm, near Port Royal. The barn was fired and Booth shot and killed. His companion,*





*Harrold [David Herold], was captured. Harrold and Booth's body are now here.*

***E.M. Stanton, Secretary of War.***

When a unique example of this broadside, hitherto unknown, surfaced unheralded a decade ago at a small regional auction, I added it to my archives. It is published here for the first time.

## Mourning Drum

Abraham Lincoln's final journey began when soldiers placed his corpse aboard a special train that traveled the 1,600 miles from Washington, D.C., to Springfield, Illinois, over 13 days. One million Americans viewed his corpse in the great cities of the North, and seven million people watched his funeral train pass by. Whenever Lincoln's body was removed from the train for a public viewing, military units joined the pro-

cession, and the troops marched to the sound of massed drums. In Springfield, the corpse was displayed for 24 hours in an open casket at the State House, where Lincoln had served as a legislator and given his famous 1858 "House Divided" speech. And at 11:30 a.m. on May 4, 1865, the drums beat one last time for Father Abraham as the funeral procession exited the State House and passed Lincoln's old home at Eighth and Jackson streets en route to Oak Ridge Cemetery.

One of those drums—a long-lost relic bearing a patina of dust and neglect—was recently discovered in Illinois. It is no different from thousands of military company drums manufactured during the Civil War for use by teenage drummer boys in an infantry company of one hundred men. It has a body of unpainted tulipwood or ash, calfskin heads, painted oak rims, hemp

cords and leather pulls to adjust the tautness of the heads and the brightness of the sound. This one was made in Granville, Massachusetts, by Noble & Cooley, a firm founded in 1854 and still in business today. Its oak rims have been beaten down from countless drumstick strikes—more than on any other Civil War drum I've ever seen—and no marks indicate which regiment or company the drummer played for. But a remnant of black mourning ribbon—a few inches from a coil that must have once laced the drum—still hangs from the bottom rim. And on the top head, written in ink, is a remarkable history: "This Drum was Played at Pres Lincoln's Funeral in Springfield Ill." On the day I acquired it, I held a pair of Civil War-era drumsticks in my hands and—careful not to damage the fragile calfskin head—tapped out faintly the muffled sound of the funeral march. ●



A MEDIUM WHO HELD  
SÉANCES IN THE LINCOLN  
WHITE HOUSE WAS ALSO  
A DRINKING COMPANION  
OF JOHN WILKES BOOTH.  
WHAT DID HE KNOW ABOUT  
THE ASSASSIN'S PLANS—  
AND WHAT DID HE TELL  
THE PRESIDENT?

# The Psychic Connection

by  
TERRY  
ALFORD

illustration by  
FRANK  
STOCKTON

**"I cannot be shut up in an iron cage and guarded,"**

Abraham Lincoln said irritably when his friend Leonard Swett worried that the chief executive's security was inadequate. A president must go among the people, Lincoln explained. "One man's life is as dear to him as another's, and if a man takes my life, he may be reasonably sure that he will lose his own," he told another friend, Rep. Cornelius Cole of California. The president had thought of assassination, yes, "but I do not believe it is my fate to die in this way."

Lincoln's friends remained worried. As the Civil War entered its final months, the Confederacy was thrashing like a harpooned shark, plotting to rob Northern banks, raid prison camps, wreck trains and send disease-infected clothing to Washington, D.C. One night the Rebels tried to set ablaze some 19 hotels and other public buildings in New York City. The





Yankees had already targeted Jefferson Davis for capture or worse. Would the South now, in response, suspend the unwritten rules that had protected Lincoln from a bullet?

Charles J. Colchester also warned Lincoln. He was no solicitous friend, like Swett or Cole. Indeed, Lincoln hardly knew Colchester. But he was important to Mary Todd Lincoln, the president's wife, and had become a regular visitor to the White House. Oddly, this strange character, a spiritualist and medium, was the one person Lincoln should have heeded. Colchester needed none of his prophetic powers to realize the president was in danger. His information likely came from the best of earthly sources—his friend John Wilkes Booth.

The story of Lincoln, Booth and Colchester—which has been overlooked in the considerable literature on the president's assassination—began, in a sense, on the afternoon of February 20, 1862. About 5 p.m. that day, the Lincolns' son Willie died at age 11, apparently of typhoid fever. Sweet-tempered Willie was the most intelligent and best-looking of the four Lincoln boys, and the one most like his father in personality. Both parents idolized him. Having lost their son Eddie 12 years earlier, when he was 3, they were devastated to be revisited by this peculiarly cruel sort of tragedy.

"His death was the most crushing affliction Mr. Lincoln had ever been called upon to pass through," recalled the artist Francis Carpenter, who lived in the White House for six months while he painted the famous portrait of the president and his cabinet at the first reading of the Emancipation Proclamation. Willie had died on a Thursday. The following Thursday, Lincoln shut himself up in the Green Room to grieve, and he began a routine of withdrawing

there each succeeding Thursday. Mary and her older sister Elizabeth Todd Edwards became alarmed over his state of mind, so they arranged for the Rev. Francis Vinton of Trinity Church in New York City to visit the president. Imperious and opinionated, Vinton, a lawyer and soldier by education, told Lincoln he was fighting with God by indulging his grief in this manner.

Lincoln heard Vinton out as if he were in a stupor until the minister said, "Your son is alive."

"Alive! Alive!" Lincoln repeated, jumping up from a sofa. "Surely you mock me."

"My dear sir," Vinton responded as he placed an arm around the president. "Seek not your son among the dead. He is not there. He lives today in Paradise." Vinton's hopeful words notwithstanding, the cold comfort of the president's fatalism was his chief solace.

As he explained to his for-

lifted by those with the proper gift.

The glad tidings of spiritualism—that the dearly departed were ever present to offer comfort and advice to the living—were powerfully appealing in the 19th century, and the movement's influence soared with the suffering produced by the war. Spiritualist newspapers proclaimed the faith, and circles of believers established themselves in the leading cities. The Washington circle counted among its members a number of government officials. Warren Chase, a traveling lecturer for the movement, thought the interest shown in spiritualism was greater in the nation's capital than in any other place.

Mary Lincoln was visited by a succession of "spirit ministers" after Willie's death. Their impact was palpable. One night she knocked on the door of the Prince of Wales bedroom, where her half-sister Emilie Helm was stay-



**THE MINISTER SAID, "YOUR SON IS ALIVE."  
"ALIVE! ALIVE!" LINCOLN REPEATED, JUMPING UP  
FROM A SOFA. "SURELY YOU MOCK ME."**

mer law partner, William Herndon: "Things were to be, and they came, irresistibly came, doomed to come."

The war's relentless demands on Lincoln's attention gradually drew him back from despair. He put a broad black ribbon around his trademark stovepipe hat in Willie's memory and moved on. The ribbon was still there when he was murdered three years later.

Mary Lincoln took to her bed for weeks after Willie died and remained inconsolable after she emerged in mourning black. More conventionally religious than her husband, she was nevertheless unable to accept the teaching of her Presbyterian faith that Willie had gone to God in peace and rest. She did not want to part with him. Perhaps she didn't have to, friends said. They told her that Willie was still here—anxious to see her, in fact—and simply waited on the other side of a veil that could be

ing, to talk about Willie. "He lives," Mary said, her voice trembling. "He comes to me every night and stands at the foot of my bed with the same sweet, adorable smile he has always had." Sometimes he brought other departed family members with him, like his brother Eddie. "You cannot dream of the comfort this gives me."

Mary's eyes were wide and shining and otherworldly as she spoke, and Emilie grew alarmed. "It is unnatural and abnormal," she wrote in her diary. "It frightens me."

Now it was Lincoln's turn to worry. Dutiful husband that he was, the president dropped in on her sittings with spiritualists from time to time.

**Booth befriended Ira and William Davenport, magicians from Buffalo who posed as mediums; their act was so popular it played overseas (opposite, a poster from London, 1865). The Rev. Francis Vinton (above) provided grief counseling to Lincoln at the first lady's suggestion.**



See more about Lincoln and the spirit world at [Smithsonianmag.com/psychic](http://Smithsonianmag.com/psychic)



# THE DAVENPORT BROTHERS'

## PUBLIC CABINET SÉANCE.



NOW BEING HELD AT  
**THE QUEEN'S CONCERT ROOMS,**  
HANOVER SQUARE.

*This Drawing is the Copyright of Messrs. Robert Cocks and Co., London.*

Once he tagged along with her to visit Margaret Laurie and her daughter Belle Miller, the so-called witches of Georgetown. It seemed advisable to keep an eye on these occasions, and—given that Miller supposedly had the power to levitate pianos—they might also be entertaining. But the president was never a believer, referring whimsically to the spirit world as “the upper country.” Lincoln believed for most of his life that the soul lost its identity after death.

Prominent among the mediums who attended Mary was Charles Colchester, a red-faced, blue-eyed Englishman with a large mustache. Alleged to be the illegitimate son of a duke, this seer professed remarkable powers: He could read sealed letters, cry out the names of visitors’ deceased friends, cause apparitions to appear, and produce words on his forearm in blood-red letters. “Colchester is regarded as the leader of Spiritualism in America,”

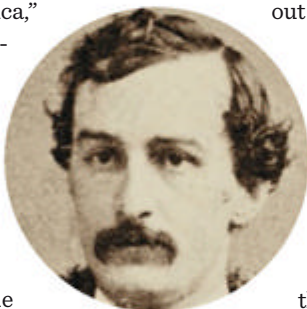
a Cincinnati newspaper reported, “and, as a consequence, his votaries, believers, and visitors are counted by the hundreds.” To the faithful he was an extraordinarily gifted intermediary with the other side. To skeptics he was a con man who employed sleight of hand, hypnosis and sideshow magic in darkened rooms to fill his pockets at the expense of the troubled and the brokenhearted. (In the fall of 1865, he was convicted in upstate New York of practicing “jugglery,” or sleight of hand, without a license and died in Iowa a few years later.)

Colchester set up shop in Washington in midwar and before long was working his wizardry at the White House and the Soldiers’ Home, where a presidential summer cottage sat on a hill north of downtown. There, at private sittings, the young soothsayer mystified the president and his wife.

Lincoln was particularly intrigued with Colchester’s eerie ability to summon noises in different parts of a room.

Like any rational person, the president wanted to understand what was happening, so he asked Colchester to submit to an examination by Joseph Henry, the Secretary of the Smithsonian Institution. The medium agreed, and a chagrined Henry reported back to the president that he had no immediate explanation for the phenomenon. (He later learned that Colchester wore a specially designed electrical noise-maker strapped to his biceps. The discovery came quite by chance, after Henry struck up a conversation with a stranger on a train who happened to be the man who had made the device and sold it to Colchester.)

Honest if he liked a client, Colchester admitted to Chase that “he often cheated the fools, as he could easily do it.” Since he was as receptive to distilled spirits as to ethereal ones, most of the money he received for his sittings went straight to whiskey. When friends asked him out for a glass, the convivial



**WHEN SOMEONE URGED THE PRESIDENT TO BE MINDFUL OF HIS SAFETY, HE RESPONDED, “COLCHESTER HAS BEEN TELLING ME THAT.”**

Englishman would reply that he must first consult the spirits for guidance. With an earnest look, he would slap his hand on the nearest lamppost, commune intently, then announce that the other world had authorized a libation. Chronically short of cash, he was greedy and deceptive—in a word, trouble.

As a regular on the Washington social circuit, Colchester met John Wilkes Booth. The stage star was living in Washington at the time, plotting to abduct Lincoln as a hostage for the South, when not fantasizing about assassinating him.

Booth’s interest in spiritualism began in 1863, when his sister-in-law Molly died; inherently superstitious, he attended a number of séances with his widowed brother, Edwin. Later Booth grew strongly attached to the remarkable brothers Ira and William Davenport, magicians who posed as

spiritual mediums. When they were tightly bound inside a sealed box with musical instruments, a person outside the box could hear tunes coming from within it. Yet, when the box was opened and the brothers were revealed to be still tied in their original positions, it seemed as if they had summoned a ghostly orchestra to perform. They were “probably the greatest mediums of their kind the world has ever seen,” Arthur Conan Doyle, the creator of Sherlock Holmes and a noted spiritualist, once wrote. Booth loved the Davenports and had private sittings with them whenever he could.

In the weeks before the assassination, Booth roomed at the National Hotel on Pennsylvania Avenue, just six blocks from the Capitol and even closer to Ford’s Theatre. Colchester visited him there often. Besides his ability to contact the dead, Colchester could also tell the future—a useful ability to Booth, who was beginning to

think the unthinkable. The pair spent a considerable amount of time together, said George W. Bunker, the National’s room clerk, and they often went out in company. Bunker observed that Colchester was not merely Booth’s friend. It was more than that. Colchester was Booth’s “associate.”

Meanwhile, Colchester made mischief at the White House. Having gained Mary’s trust, he demanded that she get him a free railroad pass from the War Department. Colchester made clear that she would do it or he would make public some very embarrassing facts he had learned during their sittings. Frantic, Mary disclosed the

**Booth (above) and Colchester were both men about Washington; it was almost inevitable that they would meet. Colchester’s entree to the president’s circle came through Mary Todd Lincoln (opposite, with her husband and sons, from left, Willie, Robert and Tad).**





THE LINCOLN FAMILY IN 1861.

blackmail attempt to Noah Brooks, a member of the president's inner circle.

Brooks decided to confront the scoundrel. He attended a Colchester séance where everyone sat holding hands around a table on which a drum, a banjo and a bell had been placed. When the lights were extinguished, music began to play from the instruments. Breaking his hands free, Brooks grasped in the direction of the sound and cracked his head on something hard. He held his grip, however, and when a friend struck a match, Colchester's hand, holding a bell and the drum that had left a gash on Brooks' head, was in his grasp.

Colchester left the room and refused to return, saying he was "so outraged by this insult." But Brooks caught up with him at the White House a day or two later and said, "You know that I know you are a swin-

dler and a humbug." Colchester fled.

In early April 1865, Booth abandoned his plot to kidnap Lincoln to focus on assassinating him. In front of a number of trusted friends in Washington he threatened to kill the president, and one wonders—the record is mute on this point—what Colchester learned of his plans.

That the spiritualist warned Lincoln became clear a few days later. When someone urged the president to be mindful of his safety, he responded, "Colchester has been telling me that." While warning Lincoln was a stock in trade for mediums, here was one mystic in a position to know what he was talking about. For all his faults, Colchester was the master only of misde-meanor; he had no felony at heart.

Lincoln "was too intelligent not to know he was in danger" at times, wrote his secretaries John G. Nicolay and

John Hay. "But he had himself so sane a mind and a heart so kindly, even to his enemies, that it was hard for him to believe in a political hatred so deadly as to lead to murder." He routinely disregarded such warnings, recalled Nettie Colburn, another medium who visited the White House.

When Booth shot Lincoln on April 14, 1865, at Ford's Theatre, the search for the assassin and his accomplices commenced immediately. Col. Henry H. Wells, a top military policeman, went to the National Hotel to look for information about the actor. Bunker, the room clerk, told him about Booth's association with Colchester and said the medium had been staying at the Washington House hotel. But Wells couldn't find Colchester at the Washington, nor anywhere else in the city. Like the spirits he summoned, Colchester had disappeared.



# Sisterly Love

IN HER POST-ASSASSINATION MEMOIR, ASIA BOOTH CLARKE RECALLED HER BROTHER'S PASSION, HIS PATRIOTISM AND HIS LAST WORDS TO HER

by  
PAIGE  
WILLIAMS

illustration by  
CLIFF ALEJANDRO

**"The Booths had an inherited strain of darkness in them," an acquaintance of Asia's wrote in the foreword to her memoir. Opposite: Asia and John.**

## Asia Booth Clarke, sickly pregnant with twins

at her mansion in Philadelphia, received the morning newspaper on April 15, 1865, in bed and screamed at the sight of the headlines: John Wilkes, her younger brother, was wanted for the assassination of President Lincoln.

Asia was married to an actor, John Sleeper Clarke. In their home, they kept an iron safe, where Asia's brother often stored papers when he traveled. As the reality of Lincoln's death took hold, Asia remembered documents that Booth had deposited during the winter and fetched them. In a large sealed envelope marked "Asia," she found four thousand dollars' worth of federal and city bonds; a Pennsylvania oil-land transfer, made out to another of her brothers; a letter to their mother explaining why, despite his promises, Booth had been drawn into the war; and a written statement in which he tried to justify an earlier attempt to abduct the president as a prisoner of the Confederacy.

Years later, Asia would describe these events—and attempt to explain her brother—in what is today a lesser-known memoir. Scholars have "delighted" in the slender book, says Terry Alford, a John Wilkes Booth ex-







pert in Virginia, because it remains the only manuscript of significant length that provides insightful details about Booth's childhood and personal preferences. "There's no other document like it," Alford told me.

Booth's letter to his mother did not run immediately in the press, but the manifesto did, supplying what Asia called "food to newsmongers and enemies" and drawing "a free band of male and female detectives" to her doorstep. As the manhunt proceeded, the authorities twice searched her home. Her difficult pregnancy exonerated her from having to report to Washington—a detective was assigned to her home, instead, to read her mail and coax her to talk—but her husband, a Unionist, was taken temporarily to the capital for interrogation. One of her brothers, Junius, an actor and theater manager, was also arrested—on the same day, as it happened, that the authorities finally tracked John to a barn in Virginia and shot him dead. He had been at large for 12 days.

Asia was the fourth of the six Booth children who lived to adulthood; John was number five. The two were extremely close. Several years before Lincoln's death, they had started collaborating on a biography of their famous father, a stage actor. Unable to focus, Booth had left the project to his sister. With the family name destroyed, Asia recommitted herself to the biography, which was published in 1866, and to regaining credibility.

She also became formally religious. The Booths had raised their children to be spiritual without directing them to any one church, but her brother's ignominious act, along with his death, had "brought to a crisis Asia's need for a sense of legitimacy and order," Alford has noted. After converting to Roman Catholicism, Asia had her children baptized in the church. In the spring of 1868, having renounced the United States, she moved with her family to London.

In England, Asia gave birth to three

more children. They all died. Her rheumatism grew worse. Friendless, she felt isolated and estranged from her husband, who was often away at the theater. Every Fourth of July, and on George Washington's birthday, she would hang an American flag in nostalgia for the homeland to which she felt she couldn't return. By now, she had lost her adored brother, her country, her parents, several children, her health, and now she was losing her husband to "dukelike haughtiness" and "icy indifference," not to mention a mistress. London she despised: its weather, chauvinism, food. "I hate fat, greasy-voiced, fair-whiskered Brit-



**"STRANGE MEN CALLED AT LATE HOURS, SOME WHOSE VOICES I KNEW, BUT WHO WOULD NOT ANSWER TO THEIR NAMES," ASIA WROTE.**

ons with all my heart," she wrote in a letter in 1874.

Nine years had passed since Lincoln's death. Lonely and irritable, Asia revised the biography of her father and began writing about her brother. In distinctive, slanted handwriting, she worked quickly in a small, black-leather journal equipped with a lock. "John Wilkes was the ninth of ten children born to Junius Brutus and Mary Anne Booth," she began.

The second paragraph sketched a haunting précis:

*His mother, when he was a babe of six months old, had a vision, in answer to a fervent prayer, in which she imagined that the foreshadowing of his fate had been revealed to her. . . . This is one of the numerous coincidences which tend to lead one to believe that human lives are swayed by the supernatural.*

Asia, a poet, had made verse of the "oft-told reminiscence" of the vision, as a birthday gift for her mother 11 years before the assassination. ("Tiny, innocent white baby-hand / What force, what power is at your command / For

evil, or good?") Now, in the memoir, she also recounted an eerie experience her brother had as a boy, in the woods near the Quaker boarding school that he attended in their native Maryland: A traveling fortuneteller told him "Ah, you've had a bad hand. . . . It's full enough of sorrow. Full of trouble." He had been "born under an unlucky star" and had a "thundering crowd of enemies"; he would "make a bad end" and "die young."

The young Booth wrote out the fortune in pencil on a scrap of paper that eventually wore to tatters in his pocket. Asia wrote that in "the few years that summed up his life, frequent recurrence was sadly

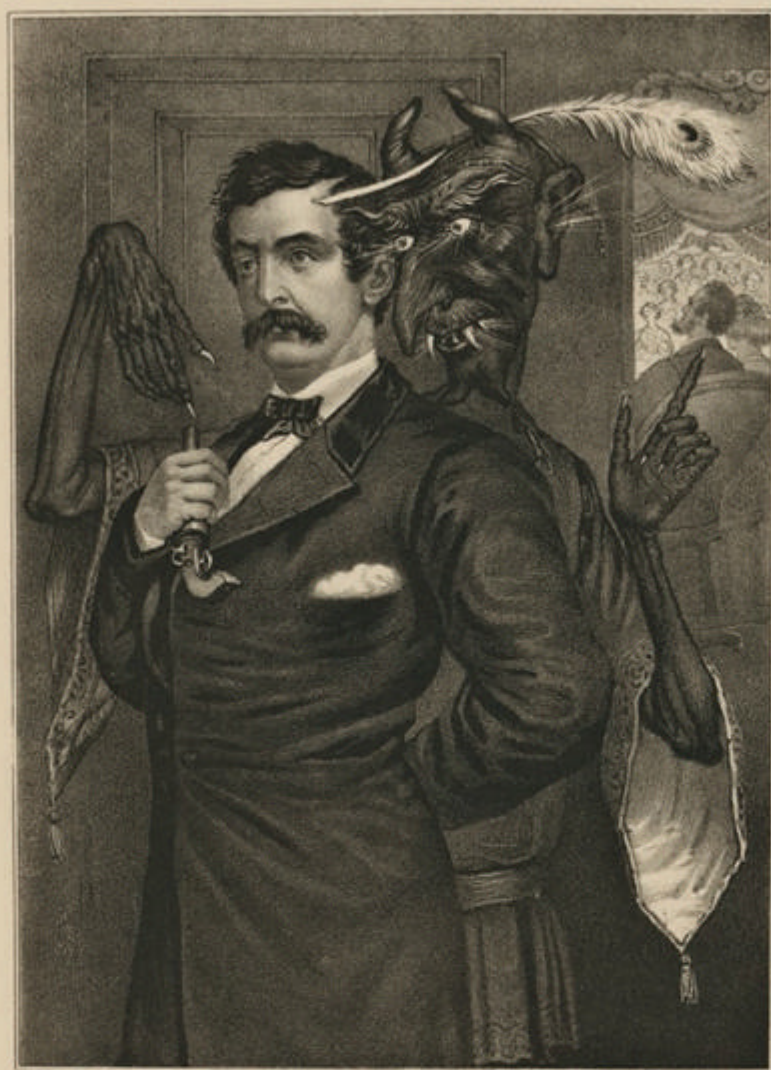
made to the rambling words of that old Gipsy in the woods of Cockeysville."

Asia was smart and sociable, with a mind for mathematics and poetry. Her father thought she had a "sulky temper" at times. Thin and long-faced, she had narrow lips, brown eyes and a cleft chin, and wore her dark hair parted down the middle and gathered up in back.

Her brother was beautiful, with "long, up-curling [eye]lashes," "perfectly shaped hands," his "father's finely shaped head," and his mother's "black hair and large hazel eyes," she wrote. In intimate detail, Asia documented his preferences and habits, as if to freeze his memory and humanize him before the public:

He had a "tenacious rather than an intuitive intelligence" as a boy—he learned slowly but retained knowledge indefinitely. He had a "great power of concentration"—at school, he sat with "forehead clasped by both hands, mouth firm set, as if resolute to conquer." When trying to accomplish a difficult task, his strategy was to imagine challenges as a column of foes to be struck down one by one. In the woods, he practiced elocution. ("His voice was a beautiful organ.") A lover of nature, he might "nibble" some roots or twigs or throw himself to the ground to inhale the "earth's healthy





**SATAN TEMPTING BOOTH TO THE MURDER OF THE PRESIDENT.**

J. L. MAGEE, PUB. 303 WALNUT ST. PHILADELPHIA

**With her family name destroyed (above, a lithograph by J. L. Magee, a specialist in “America’s most lurid disaster scenes”), Asia renounced the United States and moved to England.**

breath,” which he called “burrowing.”

The president’s killer loved flowers and butterflies. Asia noted that her brother considered fireflies “bearers of sacred torches” and that he avoided harming them. She remembered him as a good listener. He was insecure about his lack of stage grace, and he worried about his chances as an actor. The music that he enjoyed tended to be sad, plaintive. A flautist, he adored reciting poetry and Julius Caesar. He loathed

jokes, “particularly theatrical ones.” He smoked a pipe. He was a “fearless” rider. He preferred hardwood floors to carpet for the “smell of the oak,” and sunrises to sunsets, which were “too melancholy.”

Describing her brother’s bedroom, Asia wrote: “A huge pair of antlers held swords, pistols, daggers and a rusty old blunderbuss.” His red-covered books, cheaply bound, contained “Bulwer, Maryatt, Byron and a large Shakespeare.” He slept on “the hardest mattress and a

straw pillow, for at this time of his life he adored Agesilaus, the Spartan King, and disdained luxuries.” In dire times, he “ate sparingly of bread and preserves” so as to leave more for others. He was mannerly, “for he knew the language of flowers.”

Asia wrote straightforwardly, often lyrically. (A stream “came gurgling under the fence and took its way across the road to the woods opposite, where it lost itself in tangled masses of wild-grape bowers.”) A few **CONTINUED ON PAGE 84**



# Afterlife

AMERICA'S FIRST ASSASSINATED  
PRESIDENT WASN'T UNIVERSALLY  
MOURNED—EVEN IN THE NORTH

by  
HAROLD  
HOLZER

**Adulation  
for Lincoln  
(opposite, a  
Philadelphia  
lithographer's  
viewpoint, 1865)  
did not become  
widespread until  
years after he  
was killed.**

## Even as he hid out in Zekiah Swamp in Southern

Maryland, John Wilkes Booth—famished, soaked, shivering, in agony from his fractured fibula and feeling “hunted like a dog”—clung to the belief that his oppressed countrymen had “prayed” for President Abraham Lincoln’s “end.” Surely he would be vindicated when the newspapers printed his letter.

“Many, I know—the vulgar herd—will blame me for what I am about to do, but posterity, I am sure, will justify me,” he had boasted on April 14, 1865, the morning he determined to kill the president, in a letter to Washington’s *National Intelligencer*. Lincoln had famously loved Shakespeare, and Booth, the Shakespearean actor, considered the president a tyrant and himself the Bard’s most infamous avenger reborn. “It was the spirit and ambition of Caesar that Brutus struck at,” he boasted. “Caesar must bleed for it.”

As he waited to cross the Potomac River into Virginia, Booth finally glimpsed some recent newspapers for the first time since he had fled Ford’s Theatre. To his horror, they described him not as a hero but as a savage who





A. LINCOLN,  
Died  
April 15<sup>th</sup> 1865.



had slain a beloved leader at the peak of his fame. “I am here in despair,” he confided to his pocket diary on April 21 or 22. “And why? For doing what Brutus was honored for, what made [William] Tell a hero. And yet I for striking down a greater tyrant than they ever knew am looked upon as a common cutthroat.” Booth died clinging to the hope that he would be absolved—and lionized.

He had no way of knowing that the *Intelligencer* never received his letter. The fellow actor to whom Booth had entrusted it, fearful of being charged with complicity in the president’s murder, burned it. Not until years later, after he miraculously “reconstructed” all 11 paragraphs, would it appear in print. By then, Lincoln was almost universally embraced as a national icon—the great emancipator and the preserver of the Union, a martyr to freedom and nationalism alike. But that recognition did not arrive immediately, or everywhere; it took weeks of national mourning, and years of published reminiscences by his familiars, to burnish the legend. In shooting Lincoln on Good Friday, 1865, Booth intended to destabilize the United States government, but what he most destabilized was the psyche of the American people. Just the previous month they had heard the president plead for “malice toward none” in his Second Inaugural Address. Now, America’s first presidential assassination unleashed an emotional upheaval that conflated vengeance with sorrow.

Booth’s braggadocio seems delusional now, but it would have appeared less so at the time. Throughout his presidency—right up to Lee’s surrender at Appomattox on April 9—Lincoln had attracted no shortage of bitter enemies, even in the North. Just six months earlier, he had been viewed as a partisan mortal: a much-pilloried politician running in a typically divisive national canvass for a second term as president. “The doom of Lincoln and black republicanism is sealed,” railed one of Lincoln’s own hometown newspapers after he had been renominated in June 1864. “Corruption and the bayonet are impotent to save them,” the Democratic

*Illinois State Register* added. Not even the shock of his assassination could persuade some Northern Democrats that he didn’t deserve a tyrant’s death.

“They’ve shot Abe Lincoln,” one jubilant Massachusetts Copperhead shouted to his horrified Yankee neighbors when he heard the news. “He’s dead and I’m glad he’s dead.” On the other extreme of the political spectrum, George W. Julian, a Republican congressman from Indiana, acknowledged that his fellow Radicals’ “hostility towards Lincoln’s policy of conciliation and contempt for his weakness were undisguised; and the universal feeling among radical men here is that his death is a god-send.”

Perhaps nothing more vividly symbolized the seismic impact of the as-

sassination than the scene of utter confusion that unfolded minutes after Booth fired his single shot. It did not go unrecorded. An artist named Carl Bersch happened to be sitting on a porch nearby, sketching a group of Union soldiers and musicians in an exuberant victory procession up Tenth Street in front of Ford’s Theatre. Suddenly Bersch noticed a commotion from the direction of the theater door.

As a “hushed committee” emerged and began bearing the president’s inert frame through the crowd of revelers toward William Petersen’s boardinghouse across the street, the martial music dissolved and the parade melted into disarray. Remarkably, Bersch kept his composure and incorporated what he called







**The painter Carl Bersch was the only eyewitness to record the scene at Ford's, in *Lincoln Borne by Loving Hands*.**

the “solemn and reverent cortege” into his sketch. Later, the artist expanded it into a painting he titled *Lincoln Borne by Loving Hands*. It is the only known visual record of an end-of-war celebration subdued by the news of Lincoln’s murder, and it seemed to parallel the pandemonium about to overtake the North. As Walt Whitman put it, “an atmosphere of shock and craze” quickly gripped the shattered country, one in which “crowds of people, fill’d with frenzy” seemed “ready to seize any outlet for it.”

For 12 chaotic days—even as hundreds of thousands of heartbroken admirers massed in Northern cities for

elaborate funerals for the slain president—the assassin remained terrifyingly at large, with Federal forces in pursuit. Americans followed the story of the manhunt for John Wilkes Booth as avidly as the troops chased him.

In Washington, church bells resumed their recent pealing—but the rhythmic chiming that had rung so triumphant after Lee surrendered now seemed muffled. Victory celebrations were canceled, bonfires extinguished, fireworks and illuminations doused, rallies canceled. Instead, city after city adorned public buildings with so much thick black crape that recognizable architecture all but vanished beneath the bunting. Citizens took to wearing black-ribboned badges adorned with

small photographs of the martyred president. A young New York City merchant named Abraham Abraham (long before he and a partner founded the retail empire Abraham & Straus) reverently placed a Lincoln bust in his shop window, one of many shopkeepers to make gestures to honor him. Not far from that storefront, self-described “factory boy” and future labor leader Samuel Gompers “cried and cried that day and for days I was so depressed I could scarcely force myself to work.”

Given the timing of the assassination, Easter and Passover services assumed profound new meaning. Christian ministers took to their pulpits on Easter Sunday, April 16, to liken the slain president to a second Jesus, who, like the first, died for his people’s sins and rose to immortality. During Passover observances, Jewish rabbis mourned the murdered leader as a born-again Moses who—as if echoing the words from Leviticus—had proclaimed liberty throughout the land and to all the inhabitants thereof. Yet, like the ancient lawgiver in the Book of Exodus, Lincoln had not lived to see the Promised Land himself.

Rabbi Henry Vidaver spoke for many Jewish prelates, Northern as well as Southern, when he told his St. Louis congregants that Lincoln’s death brought “woe and desolation into every heart and household throughout the whole Union” during holy days otherwise devoted to jubilee. In Lincoln’s hometown of Springfield, Illinois, Methodist Bishop Matthew Simpson tried to console the slain president’s neighbors by assuring them that Lincoln had been “by the hand of God singled out to guide our Government in these troublous times.” Aware that many Northerners felt vengeful toward his killer, Simpson quoted Lincoln’s recent injunction against malice.

Still, the desire for reprisal could not be entirely checked. Embittered Washingtonians subjected “any man showing the least disrespect to the memory of the universally lamented dead” to “rough treatment,” the *New York Times* reported. The Union Army—whose soldiers had voted for Lincoln in huge majorities the previous November—was

harsh on dissidents. When a soldier named James Walker of the 8th California Infantry declared that Lincoln was a “Yankee son of a bitch” who “ought to have been killed long ago,” he was court-martialed and sentenced to death by firing squad. (An appeals court later commuted the sentence.) In all, military officials dishonorably discharged dozens of loose-lipped enlisted men like the Michigan soldier who dared to blurt out, in Lincoln’s hometown, “The man who killed Lincoln did a good thing.”

In the Upper South, many newspapers expressed shock and sympathy over Lincoln’s murder, with the *Raleigh Standard* conveying its “profound grief” and the *Richmond Whig* characterizing the assassination as the “heaviest blow which has fallen on the people of the south.” But not all Southern journals proffered condolences. The aptly named *Chattanooga Daily Rebel* opined: “Abe has gone to answer before the bar of God for the innocent blood which he has permitted to be shed, and his efforts to enslave a free people.” Thundering its belief that Lincoln had “sowed the wind and has reaped the whirlwind,” the *Galveston News* sneered: “In the plentitude of his power and arrogance he was struck down, and is so ushered into eternity, with innumerable crimes and sins to answer for.”

Many Southerners who reviled the Northern president held their tongues—because they feared they would be blamed for his murder. “A kind of horror seized my husband when he realised the truth of the reports that reached us of this tragedy,” recalled the wife of Clement C. Clay, who represented Alabama in the Confederate States Senate and, late in the war, directed Rebel secret agents from a posting in Canada. “God help us,” Senator Clay exclaimed. “[t] is the worst blow that yet has been struck at the South.” Not long afterward, Union officials arrested Clay on suspicions that he had conspired in Lincoln’s as-

sassination and threw him into prison for more than a year.

On the run in a doomed effort to keep the Lost Cause alive, Confederate President Jefferson Davis received word of the president’s death in an April 19 telegram that reached him in Charlotte, North Carolina. Demonstrating that, like his Northern counterpart, he knew his Shakespeare, Davis was reported by a witness to have paraphrased Lincoln’s favorite play, *Macbeth*: “If it were to be done, it were better it were well done,” adding, “I fear it will be disastrous for our people.” Later, in his postwar memoirs, Davis claimed that while others in his government-in-exile had “cheered” the news, he had expressed no “exultation” himself. “For an enemy so relentless in the war for our subjugation, we could not be expected to mourn,” he conceded with restrained candor, “yet, in view of its political consequences, it could not be



## DOUGLASS ROSE TO EULOGIZE LINCOLN AS “THE BLACK MAN’S PRESIDENT.” YET HIS JUDGMENT, TOO, EVENTUALLY SHIFTED.

regarded otherwise than as a great misfortune for the South.” The Union Secretary of War, Edwin Stanton, ordered that Davis, like Clay, be indicted on charges that he conspired with Booth in Lincoln’s murder. (Davis, Clay and other Confederate leaders ultimately received amnesty from President Andrew Johnson.)

Some anti-Lincoln men did little to disguise their jubilation. A pro-Confederate minister in Canada was heard declaring “publicly at the breakfast table . . . that Lincoln had only gone to hell a little before his time.” More circumspect Confederate loyalists confided their satisfaction only to their securely locked personal journals. Though she decried violence in any form, Louisiana diarist Sarah Morgan judged the murdered Union president harshly: “[T]he man who was progressing to murder countless human beings,” Morgan wrote, “is interrupted in his work by the

shot of an assassin.” From South Carolina, the most acclaimed Southern diarist of them all, Mary Boykin Chesnut, was succinct: “The death of Lincoln—I call that a warning to tyrants. He will not be the last president put to death in the capital, though he is the first.”

Even as such comments were being furtively recorded, Lincoln’s remains were being embalmed to the point of petrification so they could be displayed at public funerals in Washington, Baltimore, Harrisburg, Philadelphia, New York, Albany, Buffalo, Cleveland, Columbus, Indianapolis, Michigan City, Chicago and, finally, beneath signs reading “HOME IS THE MARTYR,” in Springfield.

No venue wore its dramatically changed emotions—and politics—more gaudily than Baltimore. As president-elect in 1861, Lincoln had felt compelled to pass through the so-called “Mob City” at night, in secret, and, some

foes mocked, in disguise to evade a credible pre-inaugural assassination threat. In Lincoln’s atypically bitter recollection (which he chose not to make public), “not one hand reached forth to greet me, not one voice broke the stillness to cheer me.” Now, on April 21, 1865, in a scene suggesting a mass quest for atonement, tens of thousands of Baltimore mourners braved a pounding rain to pay their respects at Lincoln’s catafalque. Disappointed admirers at the back of the lines never got to glimpse the open coffin, which was punctually shut and carted away so the president’s remains could arrive at their next stop in time.

Similar scenes of mass grief played out repeatedly as Lincoln’s body headed north, then west, to its final resting place. New York—the scene of vicious, racially animated draft riots in 1863—hosted the grandest funeral of all. More than 100,000 New Yorkers waited patiently to gaze briefly at Lin-



[From Demopolis Herald, 19th.]

## GLORIOUS NEWS.

**Lincoln and Seward Assassinated !**

**LEE DEFEATS GRANT.**

**Andy Johnson Inaugurated President.**

We have been favored with the following private dispatch, which we hasten to lay before our readers, with the hope that it may prove true :

DEMOPOLIS, April 18, 1865 —TO COL. GARNER :—  
SIR—The operator at Meridian, has just telegraphed me that Meinphis papers state, over the signature of Secretary Stanton, that Lincoln and Seward were both assassinated the same night at Washington City. Lincoln was shot through the head in the theatre ; Seward slain while sick in bed.

Andy Johnson was inaugurated as President of the United States on the 15th.

This is said to be true beyond a doubt.

I inquired particularly from the operator as to whether there was anything more in regard to Lee's capitulation, and he said nothing at all from Northern papers.

A gentleman just from Selma says it is believed in Selma that Lee and Johnston had effected a junction and whipped Grant soundly. Passengers, wounded soldiers and officers confirm this,

This is given on the authority of the operator at Meridian.

JOHN W. HENLEY, Operator.

**Assassination news outran the facts. The *Herald of Demopolis, Alabama*, reflected a common Southern hope.**

coln's remains as they lay in state at City Hall (a scene sketched by Currier & Ives artists and immortalized in a single photograph, which Stanton inexplicably ordered seized and withheld from the public). All told, half a million New Yorkers, black and white, participated in or witnessed the city's farewell to Lincoln, an event that even the long-hostile *New York Herald* called "a triumphant procession greater, grander, more genuine than any living conqueror or hero ever enjoyed."

But even there, local officials showed that some attitudes remained unchanged, and perhaps unchangeable, despite Lincoln's martyrdom. To the mortification of the city's progressives, its Democrat-dominated arrangements committee denied an African-American contingent the right to march in the procession honoring the man one of its banners proclaimed as "Our Emancipator." Stanton ordered that the city find room for these mourners, so New York did—at the back of a four-and-a-half-hour-long line of marchers. By the time the 200 members of the African-American delegations reached the end of the

procession near the Hudson River, Lincoln's remains had left the city.

It seemed fitting that the African-American leader Frederick Douglass would rise to deliver an important but largely unpublished eulogy at the Great Hall of Cooper Union, site of the 1860 speech that had helped make Lincoln president. From the same lectern Lincoln had once spoken, the antislavery champion—about whom the president had only recently declared, "There is no man's opinion that I value more"—told his audience that Lincoln deserved history's acknowledgment as "the black man's president." (Yet this judgment, too, eventually shifted. On the 11th anniversary of the assassination, as the guarantee of equal rights for African-Americans remained unfulfilled, Douglass reassessed Lincoln as "preeminently the white man's president.")

Nowhere did the initial, unpredictable response to Lincoln's death seem more bizarrely insensitive than in the birthplace of secession and civil war: Charleston, South Carolina, where a picture vendor placed on open sale photographs of John Wilkes Booth. Did their appearance signify admiration for the assassin, a resurgence of sympathy for the Lost Cause, or perhaps a manifestation of Southern hatred for the late president? In fact, the motivation may have arisen from the most sustained emotion that characterized the response to Abraham Lincoln's assassination, and it was entirely nonpartisan and nonsectional: burning curiosity.

How else to explain what came to light when, more than a century later, scholars discovered an unknown trove of Lincoln family pictures long in the possession of the president's descendants? Here, once housed in a gold-tooled leather album alongside cartes de visite of the Lincoln children, Todd relatives, scenic views, the family's dog and portraits of Union political and military heroes, a curator found an inexplicably acquired, carefully preserved photograph of the man who had murdered the family patriarch: the assassin himself, John Wilkes Booth.●

# Rare Air

Ten years ago, daredevil Steve Fossett became the Magellan of the skies

On February 28, 2005, temperatures hovered just above freezing on a late afternoon in Salina, Kansas. I stood on the tarmac as the world-record-breaking adventurer Steve Fossett prepared to take off in the single-occupant plane he had commissioned. Painted a vivid red, white and blue, the *Virgin Atlantic GlobalFlyer* resembled a giant praying mantis, the wings spanning 114 feet, the head a huge jet engine, the body a claustrophobic 3- by 7-foot cockpit. (Today the plane resides in the Smithsonian National Air and Space Museum Udvar-Hazy Center.)

In the *GlobalFlyer*, designed for maximum fuel storage and minimum weight, Fossett hoped to make the first solo circumnavigation of the globe without stopping or refueling.

by William Hasley

Every inch of the 4,000-pound catamaran-shaped plane was filled with fuel—18,000 pounds in 13 tanks, 82 percent of the plane's weight. The crew called it the "flying gas tank."

Fossett's friend and the mission's sponsor, Sir Richard Branson, founder of Virgin Atlantic and Virgin Galactic, was on hand, holding the hatch open for Fossett. "I'll be back in a couple of days," Fossett predicted lightly. Fossett hugged his wife, Peggy, gave the rest of us a thumbs up, touched the Boy Scout emblem painted next to the cockpit as a good-luck gesture and crouched to enter. Branson sealed the hatch. A shuttle bus transported us to the end of the two-mile runway as Fossett prepared for takeoff.

*GlobalFlyer* raced toward us down the runway, gaining speed, thundering like an avalanche as Fossett lifted off. The plane roared overhead—only to dip sharply, as if it were going to crash. A split second later, the aircraft righted itself, catapulted into the dusk, headed east and disappeared. It would



maintain an altitude of about 45,000 feet for most of the flight.

At the time, Fossett and I were collaborating on his memoir, *Chasing the Wind*. I later asked him about the moment when it looked to everyone as if the plane was going down. "I didn't mean to scare anyone," Fossett told me. "I was just leveling off so that I could ascend faster. The *GlobalFlyer* had never taken off carrying this much weight." Fossett had been concerned, he recalled, "that the wings might dislodge on takeoff from the weight of



# National Treasure



FROM THE  
SMITHSONIAN  
NATIONAL AIR AND  
SPACE MUSEUM  
UDVAR-HAZY CENTER

the fuel. When I hit the last marker on the runway, I pulled back hard on the throttle and surged upward. I was alive! Thrilled and on my way!"

No sooner had Fossett taken off, however, than a series of potentially catastrophic problems surfaced—a temporary failure of the GPS navigation system, a fuel leak, a total loss of the backup oxygen supply essential to survive any steep emergency descent.

Despite the risk, Fossett insisted on continuing. Cooperative tail winds pushed him back to Salina faster than

he had anticipated. At 1:37 on the afternoon of March 3, after being aloft for 67 hours, he landed. A marching band played. Thousands of people cheered. Journalists from around the world had camped out to report on his return. A wobbly Fossett climbed out of the cockpit, hugged his wife and shouted to the crowd: "This was a big one!" Branson dashed up with a bottle of champagne.

Fate finally caught up with Fossett, on September 3, 2007. He took off alone on a pleasure jaunt in a single-engine, two-seat plane about 90

miles southeast of Reno, Nevada. His disappearance launched a massively intensive and expensive search and instigated one of the first crowdsourced attempts to locate a missing person by scouring satellite images. Thirteen months later, the wreckage at last was pinpointed after a hiker discovered Fossett's aviation license in a ziplock bag near Mammoth, California.

But on that heady night when Fossett returned to Salina, Branson offered the tribute that would define his friend: "He is the adventurer's adventurer." ●



# GRAND CANYON ON THE EDGE

*A holy war is being fought  
over a proposal to build a  
\$500 million **commercial  
development**, including a  
high-tech gondola, on the rim  
of America's natural treasure*

BY DAVID ROBERTS

*photographs by*  
BILL HATCHER



# Twelve miles in on the rutted dirt road

we pull over in a dry wash and get out of our vehicles. We are on the western edge of the Navajo Reservation in Arizona, not far from the sandstone rim where the Grand Canyon plunges 3,000 feet to the confluence of the Colorado and Little Colorado rivers. The bare plateau across which we are driving is treeless, almost desolate. The region, nearly uninhabited today, was for centuries home to some of the most traditional of the Diné, as Navajos call the People.

Our guide to this outback, Delores Wilson, grew up on the plateau and knows every wrinkle of its landscape. “In summer, when we herded the sheep on our way home,” Wilson says, “we used to stop here and cool off in the shade. I had two sisters, six brothers and countless cousins. We all herded sheep when we were kids.”

Four miles farther in, we stop by the half-collapsed ruins of a

small building. “This was my grandmother’s hogan,” says Wilson. “Until I was 7 or 8, we all slept in there, all 10 or 15 of my family, because we didn’t have a home of our own. Packed together like sardines, to stay warm in winter. I can still hear the sheep wailing for the lambs to come home in the evening.”

Our next stop is another six miles west, beside a nondescript bedrock shelf. “This is where I had my puberty ceremony,” says Wilson. “I had to run in all four directions. The other kids ran after me. If they passed me, they’d get old before I did.

“This takes me back,” she says wistfully. “So much history, so many ceremonies.”

After nearly three hours, we approach the rim above the confluence. Wilson grows somber—as does her close friend Renae Yellowhorse, whose Aunt Nelly, in her 80s, still lives out here without running water or elec-

**Navajo activist Delores Wilson opposes development on land she holds sacred: “You don’t want to anger the Holy Beings there.”**



tricity, still herding sheep. Staring south, Wilson says, “Grandma told us to stay away from the canyon. You don’t throw rocks in there. That’s where the Holy Beings are.”

Renae Yellowhorse adds, “My mother was told by my great-grandmother, ‘You don’t go to the rim without a serious reason. You don’t go there just to look. You go there with your corn pollen to pray to the Holy Beings.’”

“We never used to talk about this place,” Wilson offers. “Now we have to, because of the Escalade.”



**When Teddy Roosevelt declared** the Grand Canyon a national monument, in 1908, he famously said: “Leave it as it is. You cannot improve on it. The ages have been at work on it, and man can only mar it.” In that sense, the Escalade is a thumb in TR’s eye. Covering hundreds of acres on Navajo Reservation land, it is arguably the most intrusive development ever proposed for the Grand Canyon—a \$500 million to \$1.1 billion recreation and transport facility featuring a 1.4-mile tramway equipped with eight-passenger gondolas that would carry as many as 10,000 people a day down to the river confluence, with new roads, hotels, gift shops, restaurants and other attractions. The

developer—Confluence Partners LLC, a Scottsdale, Arizona-based investment group whose members’ ventures include real estate, resorts and theme parks—says construction of the Escalade could begin as early as this year.

Little known to the public at large, this massive commercial undertaking has become so controversial that the debate about building the Escalade is itself a confluence, a turbulent coming-together of powerful forces that promise to shape America’s most iconic natural wonder for generations. On one side are investors, local business people and some Native Americans, who are interested in the profits and jobs from building the facilities

and running them, and then there is a handful of what might be called libertarian-minded supporters, who like the idea of enabling a large number of people to enjoy the great canyon’s very heart, a stunningly beautiful and remote site long inaccessible to the masses. On the other side are national park officials, environmental advocates, park visitors and Native Americans, who would prefer that the site remain as is. That the Escalade’s legality is still in doubt—most likely a matter for the courts—only adds to the turmoil.

The project has divided the Navajo Nation, and also ignited opposition from members of other tribes. Wilson and Yellowhorse are principals in a





USA—a branch of an Italian investment company that has bought up thousands of acres in the area—proposes building 2,200 new homes (including affordable housing), as well as hotels, restaurants, a shopping center, an “entertainment pavilion” based on Native American themes, a spa, a water slide and a dude ranch. Construction could begin within two to three years, says Tusayan mayor Greg Bryan, depending on when access might be granted by the U.S. Forest Service.

Environmentalists, including the Sierra Club and the Grand Canyon



Development in or near the canyon has long exerted pressure on the landscape: clockwise from top left, bridge expansion on nearby Navajo lands; park superintendent Dave Uberuaga, who opposes new Grand Canyon construction projects; night traffic at Tusayan, the South Rim tourist complex; Navajo graffiti protesting the proposed Escalade; Navajo pro-development advocate Brian Kensley, who expects job creation. “The Grand Canyon is a World Heritage site,” says Uberuaga. “I have a responsibility to protect it.”

grass-roots movement called Save the Confluence, but they are keenly aware that other Navajos are all in favor of the proposed development. For their part, Confluence Partners says it has “uncovered no evidence of any sacred sites within the project boundaries or that would be negatively impacted by the project.”

And the confluence, it turns out, is not the only point of contention. Twenty-five air miles to the southwest, another group of entrepreneurs is planning a mammoth expansion of the tiny gateway community of Tusayan, just outside the limits of Grand Canyon National Park. The Phoenix-based Stilo Development Group

Trust, oppose the Tusayan project, in the works for more than two decades. “Conservation groups deplore the ‘Disneyfication’ of the Grand Canyon,” says David Nimkin, Southwest regional director of the National Parks Conservation Association. The greatest threat the Tusayan development poses to the vast wilderness of the Grand Canyon, some critics say, could be the diminishing of the South Rim aquifer, which would cause springs and oases far below the rim to dry up significantly.

The plan to expand Tusayan, though contested in its own right, has not inflamed emotions as much as the Escalade proposal, partly because the Tusayan project has long been in the









Each year more than four million visitors experience the landscape described by Zuni cultural historian Jim Enote as the “most elemental place on earth.”



works and partly because it would only enlarge the infrastructure of an existing tourist complex that dates back to the early 20th century, when the first hotels, shops and a railroad were built.

By contrast, the Escalade, which has reached a state of white-hot urgency in only a few months, is an entirely new development. The gondola complex would tear a mechanized gash through the canyon from rim to river. In a place that has forever been a paradise of silence and pristine nature, the tramway could generate almost constant noise and light pollution, the chatter of tourists giddy with the ultimate Coney Island ride and the clutter that hotels and gift shops and hot dog stands inevitably produce.

Taken together, the proposed Tusayan and Escalade developments are unprecedented, says Dave Ueberuaga, superintendent of Grand Canyon National Park: "These two projects constitute the greatest threat to the Grand Canyon in the 96-year history of the park."

**In the awesome beauty** of the Grand Canyon's 277 miles of river passage, of the national park's 1,902 square miles of cliff and ledge and rim and pinnacle (a tract the size of Delaware), the true heart of the Grand Canyon has always been the confluence.

The first non-natives to reach the junction were the team under Maj. John Wesley Powell, who made the first descent of the Colorado River in 1869. By August 10, two and a half months into their voyage, the men had already lost one of their four wooden dories, along with vital food, and had suffered several capsize. The mood in camp during a several-day stay at the confluence veered between optimism and foreboding.

Having barely begun their journey through the Grand Canyon, the men also thrilled to the challenge of path-breaking adventure. As Powell wrote on August 13: "We are now ready to start on our way down the Great Unknown. . . . What falls there are, we know not; what rocks beset the channel, we know not; what walls rise over the river, we know not."

Soon, Powell was reporting, "The cañon is narrower than we have ever before seen it; the water is swifter; there are but few broken rocks in the channel; but the walls are set, on either side, with pinnacles and crags; and sharp, angular buttresses, bristling with wind and wave polished spires, extend far out into the river."

Long before Powell, however, Native Americans held the confluence as sacred. For the Hopi, as well as for other tribes, it is central to their origin story. The *sipapu*—a travertine bulge of mineral deposits with a hole in the center, which lies on the banks of the Little Colorado River a short distance upstream from the confluence—is the place through which all human beings migrated from the subterranean Third World to today's Fourth World.

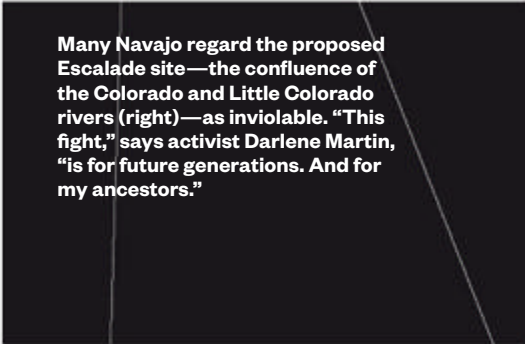
Today, hikers traipse across the limestone mound, treating it as if it were a stop on a sightseeing tour, though they are not the first to be oblivious to the spot's significance. Around 1912, a young Hopi man on his first pilgrimage to the confluence was deeply shocked by what he found there. "Some ignorant, foolhardy Whites had plunged two poles into the sacred sipapu, and left them standing against the west wall," he later recalled to an ethnographer. "Those profane fellows had desecrated the sacred spot where our ancestors—and theirs—emerged from the underworld. It was a great disgrace."

For centuries, the Hopi made extremely rugged treks (160 miles round-trip) from their mesas in northeastern Arizona to a sacred source of salt at the bottom of the Grand Canyon, a few miles up the Colorado River from the confluence. To reach the canyon base, they traversed a hazardous 3,000-foot descent on the Salt Trail, via a side canyon off the Little Colorado. Obtaining salt—a precious commodity in the Hopi diet—was essential, but the journey was also a ritual designed to ensure fertility and rain.

The most vivid published account of the pilgrimage is found in *Sun Chief*, the autobiography of Don Talayesva, who as a young man participated in one of

the last of these quests. With his father and the tribe's war chief, he camped overnight at the confluence. It was for the Hopi both a miraculous and a ghostly place, the haunt of Masau'u, god of fire and death. As Talayesva recalled decades later, "I kept looking around. The War Chief said, 'If you look around too much you may see an evil spirit.'" The Hopi knew that if they failed to perform the rituals correctly, they might come home to find a loved one dead, or to face weeks without rain.

After 1912, thanks to the availability of salt from Anglo traders' stores, the pilgrimages ended. But the Hopi still believe that the base of the Grand Canyon, near the confluence, is where their spirits



Many Navajo regard the proposed Escalade site—the confluence of the Colorado and Little Colorado rivers (right)—as inviolable. "This fight," says activist Darlene Martin, "is for future generations. And for my ancestors."

reside after death. As Leigh Kuwanwisiwma, Hopi cultural preservation officer, says, "My mother died in her 90s in 2012. A year later, I stood on the rim of the canyon [near the confluence overlook] and thought about my mom, my dad, my grandparents as I looked into the canyon. I thought, 'Can't we give our people solitude? The spirits need to be left alone.'"

For the Zuni, living today in western New Mexico and eastern Arizona, the confluence also has deep cultural significance. "Our place of emergence is also within the Grand Canyon," says Jim Enote, director of the A:shiwi A:wan Museum and Heritage Center in Zuni, New Mexico. "It's at Ribbon Falls. Our people lived a very long time in the canyon. Then we journeyed out and explored the tributaries throughout the Colorado Plateau, until we settled where we live now. We still make pilgrimages every year into the canyon, to collect plants and minerals and leave of-









The canyon floor has beckoned generations of adventurers—"The river is everything," recalled writer Patricia McCairen after rafting alone in 1982.





ferings. We have shrines there that have never been abandoned. The confluence is a very important place. We also put offerings into the Zuni River, and if you follow the Zuni downstream, it flows into the Little Colorado; the Little Colorado flows into the Colorado. So our offerings flow to the confluence, which connects us to our place of emergence.”

The scale of the Grand Canyon is too colossal to apprehend on first encounter. Gazing into its immensity from a vehicle pull-out on the South Rim can be a static exercise—viewing mere scenery, rather than encountering sublimity.

In my experience, the best way to grasp the Grand Canyon is to hike, and to get below the rim—and not on one of the most traveled routes, such as the Bright Angel Trail. On his monumental solo traverse of the canyon in 1963, Colin Fletcher reveled in the trance-like experience of discovery and solitude. “Now I could look far out across flat red rock,” he wrote in a typically lyrical passage in *The Man Who Walked Through Time*, “and watch the long, swift flight of a cloud shadow. And I found that it was a joy and a release to watch one of these shadows dissolve for a moment as it crossed a side canyon, then reappear and race onward, diminishing, until it accelerated up a distant talus slope, vaulted a cliff face, and vanished over the Canyon’s rim, five or eight or even ten miles away.”

In 2006, a few miles south of the confluence, I followed the faintest of prehistoric trails down a remote ravine. Just as I thought the passage had ended in a sheer cliff, I discovered ancient hand- and footholds pounded into the stone, serving as a vertiginous ladder leading to the depths below. I was stunned by this unexpected link to vanished Native Americans for whom, centuries or even millennia before me, the Grand Canyon was not a recreational park, but home.

**Because the land on which** Confluence Partners hopes to build the Escalade lies on the Navajo Reservation, the entrepreneurs consulted Navajos. This infuriated people from Hopi, Zuni and other pueblos, as well as the

Hualapai and Havasupai, who live in the Grand Canyon far to the west of the confluence. As Leigh Kuwanwisiwma says, “Confluence Partners asked the Navajos in Window Rock about our sacred sites! It’s all about money.”

In recent months, Confluence Partners has accelerated its campaign for the Escalade, taking out full-page ads in the *Navajo Times* and the *Navajo-Hopi Observer* that imply the Scottsdale developers and the Navajo people speak in a unified voice. “For a very long time,” reads the text of one ad, “people outside the Navajo Nation have suggested or told us what they think we should do. We are hearing

**“IN MY DREAM,  
THEY WERE  
SHUTTING  
DOWN THE  
TRAM. THEY  
WERE TEARING  
DOWN THE  
BUILDINGS.  
FINALLY THEY  
LISTENED TO US.”**

those voices again today. This is our land, our decision and our future.”

Uberuaga, the park superintendent, says “Confluence Partners is telling the tribe, ‘Take this land back from the white man.’”

With promises of jobs and economic uplift, Confluence Partners has divided the Navajo Nation against itself. Outgoing president Ben Shelly, whose term officially ended in January, supports the Escalade. But as this article went to press, procedural delays continued to stall election of his successor; candidates are keeping their views of the Escalade close to the vest.

One Navajo supporter of the project is Brian Kensley, manager for the Bodaway-Gap chapter, a tribal unit whose land covers the site of the proposed development. For various reasons, Bodaway-Gap has been for decades one of the poorest chapters on

the reservation. “The Escalade just fell into our laps,” Kensley says. “This is what the people want. They want jobs.

“I think this project will make the land out there more sacred. The Native American visitor center at the overlook will give a real interpretation of the Navajo, the Hopi, the Zuni, not some anthropologist’s view. What’s so sacred about a place that leaves people in poverty?”

The Escalade developers promote their plan as a way of democratizing the visitor experience. “Why should we restrict the [bottom of] the canyon?” asks R. Lamar Whitmer, Confluence’s managing partner, “to the hikers and rafters who can afford a \$5,000 river trip?” A posting on the company’s website asks, “More on Sacred Sites—Where Do 24,567 Rafters Go to Party?”

It’s true that a favorite stop of the commercial companies and private outfits rafting the Colorado is the confluence, where folks hike up the Little Colorado to wade in the shallow blue-green water of the travertine pools. A party atmosphere—or at least a picnic vibe—usually obtains. On my own trip on the Colorado about 20 years ago, we clients, led by our guides, did just that.

A new approach, however, may soon supersede such thoughtless antics. Robert Jenkins is the only licensed Hopi rafting guide in the Grand Canyon. He says, “Playing in the riffles of the Little Colorado still happens. It’s hard to stop other companies from doing it. But you can row on and skip that campsite. That’s usually what I do.”

His counterpart, Nikki Cooley, is the only full-time Navajo rafting guide in the canyon. “A few years ago,” she says, “the park service mandated that all the commercial companies had to be well versed in native knowledge of the canyon. Each year we organize a gathering of all the guides to educate them.” At first, she says, “I thought some of the guides weren’t taking us seriously, but now it’s getting better.”

Whitmer, of Confluence Partners, insists that the Navajo Nation is largely



See more of Bill Hatcher’s  
confluence photographs at  
[Smithsonian.com/canyon](http://Smithsonian.com/canyon)





**Above the confluence, Jaderrae Dennison prepares to perform a hoop dance. If development comes, says her grandmother, Renae Yellowhorse, “the Holy Beings won’t hear our prayers.”**

in favor of the Escalade. Despite the gas tanks and jewelry stands along Highway 89 painted with protest graffiti proclaiming “Save the Confluence” and “Sacred Sites Not for Sale,” Whitmer asserts, “I think the opponents are a very small group. I’d be surprised if there are more than 50 or 60 of them.”

Whitmer goes on to tell a homiletic story. “We held a job fair at Bodaway-Gap. About 130 people showed up. There was this older Navajo guy, real rugged-looking, with piercing eyes.

The most bowlegged guy I’d ever seen, and I grew up riding horses. I said to a friend, ‘That guy looks like trouble.’ Then I felt a tug on my arm. He had his hat off. He said, ‘I want to thank you for giving my children, my grandchildren, and my great-grandchildren a future.’ He had tears running down his cheeks. How can I let these people down?”

During the time I spent this past autumn in Tuba City, a town near the confluence overlook, I spoke to Navajos on both sides of the question. Confluence Partners cites a 2012 vote at the Bodaway-Gap chapter house that tallied 57 to 50 for the Escalade. But critics of that meeting say it was hastily called, “chaotic” and even “illegal,” adding that two previous Bodaway-Gap referenda voted down the project. Bill Hedden, director of the Grand Canyon Trust, argues, “This isn’t the way Navajos decide important questions. When an issue is that sharply divided, it’s traditional to say, ‘We

have to come up with another plan.’”

A Tuba City resident named Darlene Martin, whose family lived near the confluence overlook, tells me, “We all know the Escalade is a terrible idea. But our own relatives are taken in by Lamar Whitmer and his promises.”

It appears that a backlash against Confluence Partners is gaining momentum. A documentary produced by the Grand Canyon Trust in early December gives voice to the most articulate Navajo opponents of the project. And leaders from the Hopi and Havasupai united to pass a resolution rejecting the Escalade, as did a pan-Pueblo council convened in October. “Powerful voices from the past, present and future agree that a tramway delivering 10,000 tourists a day must not be allowed to kill the solace of this sacred place,” says program director Roger Clark of the Grand Canyon Trust.

One crucial question that critics say the developer has **CONTINUED ON PAGE 92**







# CRIKEY!

The family  
of Australia's  
famed Crocodile  
Hunter is  
inspiring the  
next generation  
of reptile  
science—and  
feeding the  
controversy  
about animals  
in captivity

**by Franz Lidz**

# The saltwater crocodile

is a great, stealthy, archaic beast that you wouldn't expect to pacify with a little friendly tickle on the tail. But here is Daisy, a seven-foot Australian saltie on a grassy shore of the Wenlock River, as placid as a Pekingese. She's being petted by 11-year-old Robert Irwin, who is stroking the lower third of her thrashing anatomy. Fortunately, a blindfold, gaffer tape and a rope muzzle ensure the amity of this relationship.

"It's an honor and a privilege to work with the largest living reptile and largest terrestrial predator on the planet," Robert tells me in the singsong tone of his television-ready family. "An awesome animal that roamed the primeval landscape for millions and millions of years."

Daisy's sawtooth tail whips the prone boy to the left. "The jaw pressure of the crocodile is incredible—3,000 pounds per square inch!"

Daisy's tail whips him to the right. "I so admire the crocodile's ability to kill with just its teeth. It's quite amazing!"

Robert's 16-year-old sister, Bindi, looks on solicitously. An actor, singer, game show host and, last year, a *People* cover girl, she's confirming Daisy's gender by inserting a finger into its cloaca and feeling around for genitalia. "It's a girl!" she says. Her smile conveys a disarming buoyancy. "Here's an animal that many people think is just a stupid, evil, ugly monster which kills people. That's so not true!"

Bindi and Robert are the offspring of Steve Irwin, the boisterous, can-do naturalist of "Crocodile Hunter" fame. Perpetually clad in khaki shorts and hiking boots, the elder Irwin's shtick—provocative, up-close interactions with wild animals and squeals of wonderment ("Crikey!") at their magnificent deadliness—made him an international TV phenomenon. Irwin's encounters with lethal animals ended in 2006, when a stingray's barb pierced his heart while he was filming on the Great Barrier Reef. He was 44.

It's late morning on the Wenlock and the odor of rotten meat hangs in the air. A feral pig carcass was used to bait the trap, one of 17 set along this 30-mile stretch of the river. The clean,



bright sun has filtered a warm benediction down onto the bank, where Robert and Bindi; their mother, Terri; and a team of animal wranglers from the family-owned Australia Zoo are taking part in an extraordinary zoological study. For more than a decade researchers have monitored the behavior and physiology of saltwater crocs in Queensland, mainly at the Steve

Irwin Wildlife Reserve, a 333,000-acre floral and faunal sanctuary on the Cape York Peninsula. The park was created by the Australian government as a living memorial.

What's perhaps surprising is that Irwin, though controversial for his flamboyant hands-on approach to wildlife, quietly teamed with serious scientists and conservationists to make a genuine contribution to the systematic natural history of this enigmatic critter. Their discoveries about the salties' habits, homing abilities and private lives have prompted a rethink of how they live and how we can coexist with them. Adult crocs have no natural predators except people, possibly because we're meaner.

At a time when nature preserves are becoming more intensively managed, and zoos and aquariums are becoming more involved in field conservation, the line between "the field" and "animal holding facility" has blurred. By straddling both worlds, Irwin was smack in the middle of the quandary over the trade-off between protecting animals in the wild and studying them in captivity. Today, that quandary is further complicated by his family's link to SeaWorld, harshly criticized since the 2013 documentary *Blackfish* for its treatment of killer whales and the subject of a withering new book by one of its former trainers (see p. 75).

The research project that Irwin helped launch is led by Craig Franklin, a University of Queensland zoologist, who, using capture techniques developed by the Croc Hunter, has trapped, tagged and released scores of salties in Aussie waterways. Data gathered by satellite and acoustic telemetry is beamed to a Brisbane lab, which maps the beasts' whereabouts and logs their dive times and depths. The project is bankrolled by the Irwins' zoo, federal grants and private donors—a little over \$6,000 gets you the "exclusive naming rights" to a wild, caught croc.

Far from being just sedentary, solitary animals with one dominant male defending a set territory, as once thought, salties also turn out to be far-ranging creatures with complex social hierarchies. "Crocodiles are misun-





**Steve Irwin's penchant for animal antics lives on in his children. "I want to make him proud," explained daughter Bindi (top, in 2011) when she was named "youth ambassador" for SeaWorld last spring. Robert (below, as an infant in 2004 during one of Steve's stunts) stars in "Wild But True," a new nature show on Discovery Kids Asia.**

derstood because they're not cute and fluffy," says Bindi, a mainstay of Franklin's annual field trips since Day 1.

When the blindfolded Daisy lets out a long, low growl, Bindi flashes a smile bright enough to illuminate the Sydney Opera House. "Crocodiles are very vocal, quite intelligent and so, so capable of love," she says. "When an adult female rests her head on her mate's

stomach, there's no way to describe it but love. They protect their babies and their homes and they have the most delightful sense of humor." Then again, you may need to be a crocodile to fully appreciate its badinage.

**There's something** inscrutable and prehistoric about the crocodile, as if it were designed by a committee of slightly

ticked-off paleontologists. Its name derives from the Greek *krokodilos*, meaning "worm of the stones." Australian stone-worms lurk large in Dreamtime, the animist framework of Aboriginal mythology. The Gagudju people of Arnhem Land believe that Ginga, a spirit ancestor who helped create the rock formations of the region, underwent a transformation after accidentally catching fire. He dashed into the water to extinguish the flames and rough, lumpy scars formed on his back. He became the first crocodile.

Aboriginal people have traditionally hunted crocodiles for their meat, but the animal's population remained stable until World War II ended and high-powered rifles became widely available. Commercial hunters and trigger-happy sportsmen slaughtered them indiscriminately. Since given protection in Australia during the early 1970s, their numbers have rebounded, then boomed to about 100,000.

Of the 23 crocodilian species, two inhabit the rivers, billabongs and mangrove swamps of the Australian tropics: the freshwater, or Johnson's, crocodile, which is relatively harmless, and the formidable estuarine, or saltwater, croc, which can grow to 20 feet in length and weigh more than a ton. The range of the two overlaps somewhat, and sometimes the bigger and far more aggressive saltie will make a hearty lunch of the freshie.

Robert Irwin got it right: Salties are ruthlessly efficient killing machines. They come equipped with nearly 70 interlocking teeth, many as sharp as a steak knife. If one breaks off, there's another underneath to replace it. Numerous muscles close the brute's jaws but only a few open them.

Over the last 70 million years not much has changed in the saltie's evolutionary design. This archosaurian behemoth can see well by day and by night and has three pairs of eyelids, one of which functions like swimming goggles to protect the croc's vision underwater. Another membrane holds the tongue in place, preventing water from filling the lungs, which is why, even in contempt, the crocodile can't stick it out.

Salties stalk their quarry with deadly

patience—over days if necessary—learning its habits and feeding times. The croc skulks below the surface near the water's edge, poised to ambush anything it can clamp those jaws on—cattle, wild boar, kangaroos, even other crocodiles as they come to drink. In a constant state of awareness, they'll reveal themselves and strike only when confident of success.

Lunging and chomping, the saltie executes the death roll: Spun around by a corkscrew snap of the tail, the body

travelogue *In a Sunburned Country*: "The chronicles of crocodile killings are full of stories of people standing in a few inches of water or sitting on a bank or strolling along an ocean beach when suddenly the water splits and, before they can even cry out, much less enter into negotiations, they are carried away for leisurely devouring."

The worst devouring was reported in 1945 during the Japanese retreat in the Battle of Ramree Island in the Bay of

He performed the service free on the proviso that—rather than the animals ending up as handbags and barbecue—he could keep them for the park.

Irwin took over the business in 1992, and that same year he married Terri Raines, a tourist and wildlife rehabilitator from Eugene, Oregon. Footage from their crocodile-trapping honeymoon became the first episode of "The Crocodile Hunter."

As the show grew in popularity, Steve and Terri expanded the zoo, with more than 1,200 animals on 1,000 acres of bushland. The centerpiece was the Crocoseum, an amphitheater—inspired by the film *Gladiator*—in which audiences were regaled by a troupe of the all-singing, all-dancing "Crocmen." Nowadays, crowds are entertained by Bindi and the Jungle Girls.

Passionate preservationists, Steve and Terri Irwin set up a foundation to protect habitats and wildlife, create rescue programs and finance scientific research into endangered species. They bought large tracts of land in Australia, hoping to turn them into protected areas, and campaigned against the illegal trade of ivory and exotic furs, and the culling of kangaroos by the Australian government.

Despite raising awareness for all manner of creatures great and small, Steve Irwin's conservation legacy is decidedly mixed. His public image was dented in 2004 when he was filmed at the zoo entering the pen of a 13-foot saltie. In one hand was a dead chicken; in the other, cradled as tenderly as a six-pack of Fosters, the month-old Robert. Irwin's antics inspired any number of tart and well-aimed comments. "For a second you didn't know which one he meant to feed to the crocodile," observed Germaine Greer, the Australian academic and writer. "If the crocodile had been less depressed it might have made the decision for him."

Other critics drew comparisons to the moment when Michael Jackson dangled his infant son over a German hotel balcony. Children's rights groups branded Irwin's behavior as child abuse. The unrepentant Irwin claimed he had been "in

**Crocs have well-developed eyesight, including night vision and the ability to see color.**



The saltie has three pairs of eyelids, one of which functions like swimming goggles.

twists and flips while the wrenching torque is absorbed at the powerful junction of head and neck. The disoriented victim is dragged into deeper water and drowned. Rather than swallow its meal immediately, the croc occasionally wedges what's left under a rock or log to allow it to decompose, returning later to feed again. Croc rules where crocs rule: Keep your claws off my prey.

Not for nothing are salties called man-eaters. On average they attack and eat one a year in Australia. Last year they took three. Their sensitivity to human routine is downright unnerving. As Bill Bryson wrote in his down-under

Bengal. British soldiers encircled swamp-land through which the Japanese were withdrawing. Nearly 1,000 soldiers are believed to have been munched to death by the resident salties.

**Steve Irwin wrassled** his first crocodile at the precocious age of 9. His father, a plumber who had opened a small reptile park on the Queensland coast, taught him to stalk salties at night and lug them out of the water. Together, they relocated crocs threatened by human settlements. In his 20s, Irwin worked as a trapper, removing problematic crocs from populated areas.



complete control” and that the danger was perceived, not real. He was never charged with a crime.

Later that year it was alleged that, while making a documentary, he had broken laws banning interaction with Antarctic wildlife. (Irwin insisted he had merely been “bobbing around.”) An Australian environmental agency investigation recommended no action be taken against him.

Irwin’s death prompted an outpouring of grief from fans around the world. Amid the floods of tributes, Greer struck a discordant note by accusing him of tormenting animals and using them as a sideshow to his own showmanship. In an unforgiving *Guardian* essay, she wrote: “There was no habitat, no matter how fragile or finely balanced, that Irwin hesitated to barge into, trumpeting his wonder and amazement to the skies. There was not an animal he was not prepared to manhandle. Every creature he brandished at the camera was in distress.”

Back in 2003, Franklin, the zoologist, had no idea what to expect from Irwin when they met by chance in Queensland’s Lakefield National Park. “I was leery of the whole celebrity thing,” recalls Franklin, who had been recording the diving behavior of freshies. “You form impressions from the way the media portrayed Steve, and you wonder what this guy is really like, how knowledgeable he really is and how much of what he does is for the benefit of the camera.”

Franklin was pleasantly surprised. “We got along like a house on fire,” he says. “Despite having no formal training, Steve had all the qualities of a great scientist. His intellect was phenomenal, he was driven by curiosity and he had an endless list of questions that he sought answers to. Steve’s acute powers of observation proved invaluable in our crocodile tagging project.”

**The first tracking** device implanted in a crocodile may have been the ticking clock swallowed by Captain Hook’s archnemesis. In J.M. Barrie’s 1911 novel *Peter and Wendy*, the pirate recounts a bit of swordplay with Peter Pan in which

# Wild at Heart

A former SeaWorld trainer takes a page from *Blackfish* and argues against keeping killer whales in captivity

**HE’S A WHISTLE-BLOWER WHO CARRIED AN ACTUAL WHISTLE,** which he wore around his neck during his 12 years as a trainer of killer whales at SeaWorld theme parks. The whistle, intended to get the attention of the 8,000-pound animals swimming around in the tank, saved his life on occasion, but it easily could have cost him his life if a whale had grabbed it to pull him into the water. As a precaution, John Hargrove writes in a new book, *Beneath the Surface*, the lanyard had a breakaway ring—and thus served as a “kind of rosary, a subtle reminder of how suddenly the hour of death may come upon you when working with orcas.”



Hargrove greets Takara at SeaWorld of Texas in 2012.

Hargrove was one of the first voices heard in *Blackfish*, the 2013 documentary that raised questions about SeaWorld’s practices; it was released three years after the death of a SeaWorld trainer named Dawn Brancheau, who was attacked by an orca during a performance. Hargrove’s book elaborates on some of the documentary’s claims but also testifies to the thrill of standing athwart four tons of muscle rushing through the water at 30 miles an hour. And, equally, the nearly mystical experience of bonding with an intelligence eerily similar to our own, yet ultimately unfathomable—and uncontrollable.

Hargrove, who quit SeaWorld in 2012, suffered numerous broken bones and nearly destroyed his sinuses. It was a risk he ran with his eyes open, and one that, in the end, he seems to feel was almost worth it. “I owe those whales,” he says in an interview. “They gave me so much in my life and my career.” But the whales’ physical and emotional well-being, he grew to believe, was incompatible with captivity. Confined to unnatural social groups for the convenience of their owners, bored and restless, forced to perform tricks for food that trainers withheld as punishment, they occasionally slipped, he writes, “into the dark side.”

SeaWorld won’t discuss Hargrove’s book before it appears, but vice president of communications Fred Jacobs writes in an email that “John Hargrove joined ranks with animal rights extremists after leaving SeaWorld and has eagerly embraced their habit of misleading the public to advance an agenda.” The company disputes most of the assertions in *Blackfish*, but it has outfitted some pools with fast-rising floors, so that a person who falls into the water with a whale can be quickly lifted to the surface. (After Brancheau’s death, the Occupational Safety and Health Administration prohibited trainers from performing in the water with orcas.) Trainers have begun carrying emergency compressed air. And the San Diego park plans to begin construction this year on a new orca habitat, called Blue World, that will more than double the swimming space.

Hargrove, living now in New York City, has adopted a pet of his own: Beowulf, a 98-pound pit bull-Dalmatian cross. She is, he says, as close as you can get to a killer whale in dog form. —JERRY ADLER

his right hand was sliced off and flung to a passing crocodile. “It liked my arm so much,” he laments, “that it followed me ever since, from sea to sea and from land to land, licking its lips for the rest of me.”

Hook relies on the ticking to alert him to the presence of the crocodile. In the end, the clock runs down and, unaware that the croc is nearby, the buccaneer meets his doom.

The shelf life of Franklin’s tracking units are considerably longer. Mounted

land,” he says. “It’s zero.” He traces his interest in all things crocodilian to an ivory letter opener his father brought back from Egypt, where he fought during World War II. “The opener was in the shape of a croc,” Franklin recalls. “After Dad died, it was his only possession that I wanted.”

His zoological renown derives from the publication, in 2000, of a paper he co-wrote on the saltie’s four-chambered heart. Franklin and a University of Go-

it can move its larger internal organs to the back of its body, like a submarine shifting ballast. Franklin and Axelsson proposed that the cogged-teeth valves allow crocs to ration oxygen underwater and stay submerged for hours.

In 2004, Franklin and Irwin joined forces with Australia’s parks and wildlife department to launch Crocs in Space, the first published satellite-tracking study of wild crocodiles. Dozens of adult salties were seized, restrained and outfitted with satellite transmitters to keep tabs on them.

Over the years, researchers have determined that saltwater crocs can hold their breath for nearly seven hours and dive to 23 feet; that they’re capable of walking miles overland between waterholes; that nesting mothers check out potential nests weeks before laying eggs; that dominant males maximize reproductive success, while subordinate males roam hundreds of miles of waterway, possibly in search of unguarded females.

“To me,” says Bindi, “their nomadic behavior is so, so fascinating.”

Salties, she notes, invest considerable parental care in the rearing of their young. The female digs them out of the nest when they start chirping and gently rolls the eggs in her mouth to assist hatching. Gingerly, if not tenderly, she carries her darlings to the water’s edge and remains at their side for several months. “Adorable!” Bindi says. What she loves most about the research study is that you can track a crocodile for ten years, and “learn all its secrets.” Some are caught and recaptured and recaptured again. “It’s kind of like seeing an old friend. You become attached to an individual and watch it grow and observe all its changes. It becomes part of your family. Imagine that: a dinosaur in your family! This is our purpose—catching prehistoric creatures and learning to share what we’ve learned with the world. And maybe, just maybe, someone listens and thinks, ‘Dinosaurs are extinct! These guys are so precious.’”

The name Bindi derives from the Aboriginal term for little girl. “It was also what my dad called one of his favorite

**Salties (below, covered in duckweed) grow new teeth to replace damaged ones.**



They come equipped with nearly 70 interlocking teeth, many as sharp as a steak knife.

to the concretelike nuchal shield of a saltie’s neck, his satellite transmitter records information for a year or more. To extend battery life, they’re programmed to turn on for 24 hours and then off for the next 72. “The technology lets us continually access data without disturbing the crocs or influencing their behavior,” Franklin says. “They act quite differently without human interference.”

Franklin is a tall, sturdy New Zealander, vigorous, dressed in denim, grizzled with neat graying whiskers. A great genial presence, with a jovial welcome. “I can’t count on my fingers the number of wild crocs in my home-

thenburg colleague named Michael Axelsson discovered that the saltie has a unique set of valves in its right ventricle that acts as a shunt, diverting oxygen-poor blood away from the lungs and back into the bloodstream. “The heart valves of most vertebrates are passive and flaplike and function like saloon doors,” Franklin says. “The croc’s have cog teeth made of nodules of connective tissue. They look like interlocked human knuckles, and are actively controlled by the nervous system and open and close like elevator doors. It’s an absolute evolutionary novelty.”

If a crocodile needs to sink in a hurry,



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crocodiles,” she says. Ebullient and almost frighteningly telegenic, Bindi was born in the global glare. Literally: Her birth was videotaped—and much of her childhood documented in feature films (*Free Willy: Escape From Pirate’s Cove*; *Return to Nim’s Island*) and TV nature shows (“Bindi, The Jungle Girl”; “Bindi’s Bootcamp”; “My Daddy the Crocodile Hunter”). By age 10 she had her own action figure, clothing line and kiddie fitness tape. “It’s been *The Truman*

and as he measures Daisy from tail to snout Bindi jots down the figures.

Like her father, Bindi seems to have an uncanny rapport with wildlife. And, like him, she seems to court controversy. Two years ago she wrote a 1,000-word essay on the environment for Hillary Clinton’s global e-journal but then withdrew it, publicly slamming the editors for deleting the edgier passages about the perils of overpopulation. Last year she was named a “youth ambas-

dience, but abusive and morally suspect. For her part, Bindi contends that SeaWorld and the Crocoseum, through public engagement, serve an invaluable educational purpose and provide experiences that build awareness and appreciation. “If we didn’t have animals in captivity, would we be inspired to save them?” she asks.

Told that court documents reveal SeaWorld has sedated whales to curb aggression, Bindi changes tack. “Look, when you’re working with an organization, nothing is perfect. So let’s step away from the bullying. In the end, we’re all trying to make a difference. We’re all trying to achieve goodness.”

**The bony plates on a crocodile’s back have annual growth rings, like trees.**



He dashed into the water to extinguish the flames and rough, lumpy scars formed on his back.

Show ever since I was knee-high to a grasshopper,” she says.

Today, a videographer and a still photographer are on hand to document the adventures of Bindi and her kid brother for the zoo’s website. While Robert hugs Daisy’s tail, Bindi rummages through Franklin’s surgical kit and pulls out scissors, sponge, scrub brush, syringe and anesthetic. She hands them to the professor, who cuts a tiny incision behind the croc’s left forelimb, inserts a transmitter and wires the wound shut. “The skin is so thick that stitching it together is like trying to sew up cowboy boots,” Bindi says. Franklin takes blood and tissue samples,

sador” of SeaWorld, which donated \$20,000 to the Irwin’s wildlife foundation for crocodile research. Animal rights activists slammed *her* for the alliance, which was announced shortly after the release of *Blackfish*, a film about the disquieting consequences of keeping killer whales at the company’s theme parks.

*Blackfish* proposes that keeping intelligent mammals in crippling confinement, making them endure violence from other captive whales and depriving them of food if they miss a cue or perform incorrectly is not only dangerous to SeaWorld trainers and au-

**Herpetologists had long** wondered how salties—notoriously poor long-distance swimmers—have inhabited so many South Pacific islands separated by wide expanses of ocean. But data gathered by Franklin and others revealed that during long voyages, the crocs ride surface currents, like surfers catching waves or migratory birds using thermal columns. In contrast, on jaunts of 6.2 miles or less the crocs under observation were just as likely to travel with or against the flow.

The migration patterns of three adult male salties—Ronald, Weldon and Banana-Head—were plotted after they were outfitted with transmitters and flown by helicopter to coastal spots far from their homes. All three returned to their original capture sites. Ronald journeyed some 60 miles over 15 days down the west coast of Cape York Peninsula. Weldon was transported from the west coast of the Cape York Peninsula to the east coast. After roaming through various river systems for three months, he navigated his way back through the Torres Strait and around the cape, covering more than 250 miles in 20 days. The strait is infamous for strong currents, and when Weldon reached the passage, the surface current was against him. So he stopped in a sheltered bay for three days before making his move. Banana-Head, who was released 32 miles south of where he was captured, swam up and down the coast for two weeks be-



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# Affordable *New* Digital Hearing Aid *Outperforms* Expensive Competitors Delivers *Crystal - Clear* Natural Sound

Reported by J. Page

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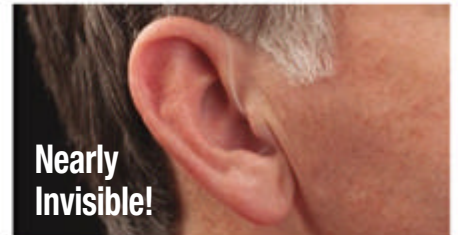
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fore making a beeline for his waterhole, which he reached in five days.

Salties' uncanny ability to find their way home after being relocated, which Franklin and coworkers have documented in several studies, remains something of a mystery. Perhaps, Franklin speculates, "they swim around when released and realign themselves in their environment by celestial navigation or geomagnetic cues."

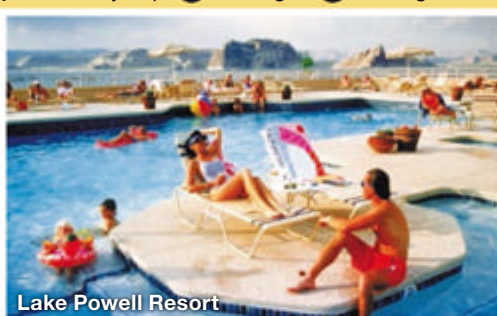
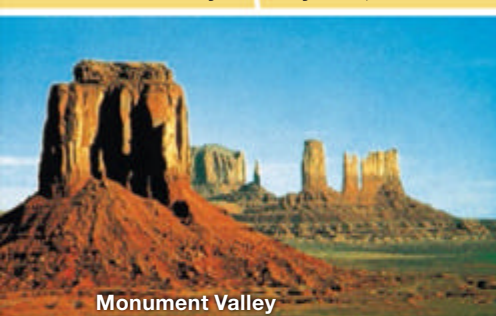
Such findings proved significant because moving salties from one place to another, a practice known as translocation, has been used in Queensland to manage potential safety risks posed by the animals. "Our experiment showed that translocation was ineffective and extremely dangerous," Franklin says. Residents and tourists got a false sense that the waters were crocodile-free. The government abandoned its program in 2011.

Though hunting salties is banned in Queensland, the state has established "Crocodile Management Zones." Private contractors have been enlisted to capture, snare or harpoon rogue salties in those areas: "All crocodiles removed from the wild are placed in a zoo or crocodile farm or, in some cases, humanely euthanized," according to the 2013 Hinchinbrook Shire Council Saltwater Crocodile Management Plan. Franklin says, "Some have regrettably died during their capture by the government, which is something that has never occurred during our research."

Bindi considers the plan unconscious. "Crocodiles are of vital importance," she says. "They're apex predators that regulate populations of other organisms. Without them, the entire ecosystem could collapse." Sure, she concedes, crocodiles can, and sometimes do, attack and kill people. "But they're not after people," insists the Jungle Girl. When humans are attacked, she reasons, it's almost always because they acted irresponsibly: fishing with bait tied to their belt, swimming after dark, ignoring warning signs or stealing them for souvenirs.

"It's up to us to learn to live with crocs," she says. "After all, they were here first." 





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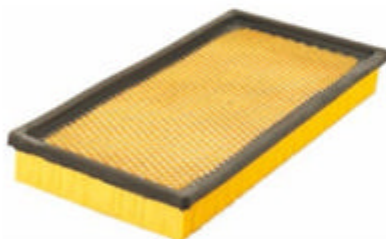


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## Asia Booth

CONTINUED FROM PAGE 49

passages are tone deaf (her brother, she recalled, had “a certain deference and reverence towards his superiors in authority”) or objectionable: While the family did not share Wilkes’ Southern sympathies, Asia referred to African-Americans as “darkies” and immigrants as “the refuse of other countries.”

It should be noted that Asia worked almost entirely from memory as she wrote what she might have hoped would be the definitive portrait of her brother. “Everything that bore his name was given up, even the little picture of himself, hung over my babies’ beds in the nursery,” she wrote. “He had placed it there himself saying, ‘Remember me, babies, in your prayers.’”

**Several months before** the assassination, Booth showed up at Asia’s house, his palms callused, mysteriously, from “nights of rowing.” His thigh-high boots contained pistol holsters. His threadbare hat and coat “were not evidence of recklessness but of care for others, self-denial,” Asia wrote. Their brother Junius would later describe to Asia a moment, in Washington, when Booth faced the direction of the fallen city of Richmond, and “brokenly” said, “Virginia—Virginia.”

During his visit with Asia, he often slept in his boots on a downstairs sofa. “Strange men called at late hours, some whose voices I knew, but who would not answer to their names,” Asia wrote, adding, “They never came farther than the inner sill, and spoke in whispers.”

One night, Booth raged against Lincoln and his delusions about an impending monarchy. “A desperate turn towards the evil had come!” Asia wrote. For once, she found herself unable to calm her brother’s “wild tirades, which were the very fever of his distracted brain and tortured heart.”

Before having his sister deposit some of his papers in her safe, Booth told her that if anything should happen to him she should follow the instructions in the documents. He then knelt at her knee and put his head in her lap, and she stroked his hair for a while.

Rising to leave, he told her to take care. She said she would not be happy until they saw each other again. “Try to be happy” were his last words to her.

“There is no more to add,” she wrote. “The rest is horror, fitter for a diary than for these pages.”

In a letter, her brother Edwin advised her to forget John: “Think no more of him as your brother; he is dead to us now, as he soon must be to all the world.”

But Asia could not let it go. She used her memoir to assert that her brother never openly plotted against the president and, contrary to rumor, never carried in his pocket a bullet meant for Lincoln. She repeatedly defended his mental health, citing the fortune-teller’s augury to explain his actions: only a “desperate fate” could have impelled someone with such “peaceful domestic qualities” to murder the nation’s leader.

Ultimately, she conceded a possibility:

The fall of Richmond “breathed air afresh upon the fire which consumed him.” Lincoln’s visit to the theater signaled the “fall of the Republic, a dynasty of kings.” His attending a play “had no pity in it,” Asia wrote. “It was jubilation over fields of unburied dead, over miles of desolated homes.” She ended her book by calling her brother America’s first martyr.

The handwritten manuscript totaled a slim 132 pages. Asia left it untitled—the cover held only “J.W.B.” in hand-tooled gold. In it, she referred to her brother as “Wilkes,” to avoid reader confusion about the other John in her life. She hoped the book would be published in her lifetime, but she died in May of 1888 (age 52; heart problems) without ever seeing it in print.

In a last wish, she asked that the manuscript be given to B.L. Farjeon, an English writer whom she respected and whose family considered Asia “a sad and noble woman,” his daughter Eleanor wrote. Farjeon received the manuscript

in a black tin box; he found the work to be significant but believed the Booths, and the public, to be unready for such a gentle portrait of the president’s killer.

Fifty years passed. Eleanor Farjeon pursued publication. In 1938, G.P. Putnam’s Sons put out the memoir as *The Unlocked Book: A Memoir of John Wilkes Booth by His Sister Asia Booth Clarke*, with a price of \$2.50. In the introduction, Farjeon described the project as Asia’s attempt to repudi-

ate the “shadowy shape evoked by the name John Wilkes Booth.” The *New York Times* gave it a matter-of-fact review. In the *Saturday Review*, the historian Allan Nevins said it had been “written with a tortured pen.”

University Press of Mississippi republished the memoir in 1996 as *John Wilkes Booth: A Sister’s Memoir*, with an introduction by Alford, a professor of history at Northern Virginia Community College (and the author of “The Psychic Connection” on

p. 40). An addendum contains family letters and documents; if Asia’s feelings about her brother are conflicted, Booth’s are made clear on the issues of slavery (a “blessing”), abolitionists (“traitors”) and secession (he was “insane” for it).

The original manuscript is privately owned, in England, according to Alford, whose research and introduction provide much of the contextual narrative detail given here. He thinks of Asia’s work as “diligent and loving,” and told me, “It’s the only thing we’ve really got about Booth. If you think about the sources, most are about the conspiracy. There’s nothing about him as a person, no context.”

Though an important commentary on Booth’s life, the text was unpolished and never “properly vetted for the reader by literary friends and a vigilant publisher,” Alford notes. Better to think of the memoir as “an intense and intimate conversation,” he wrote, “thrown out unrefined from a sister’s heart.” ●



**Edwin Booth urged Asia to forget their brother: “He is dead to us now.”**





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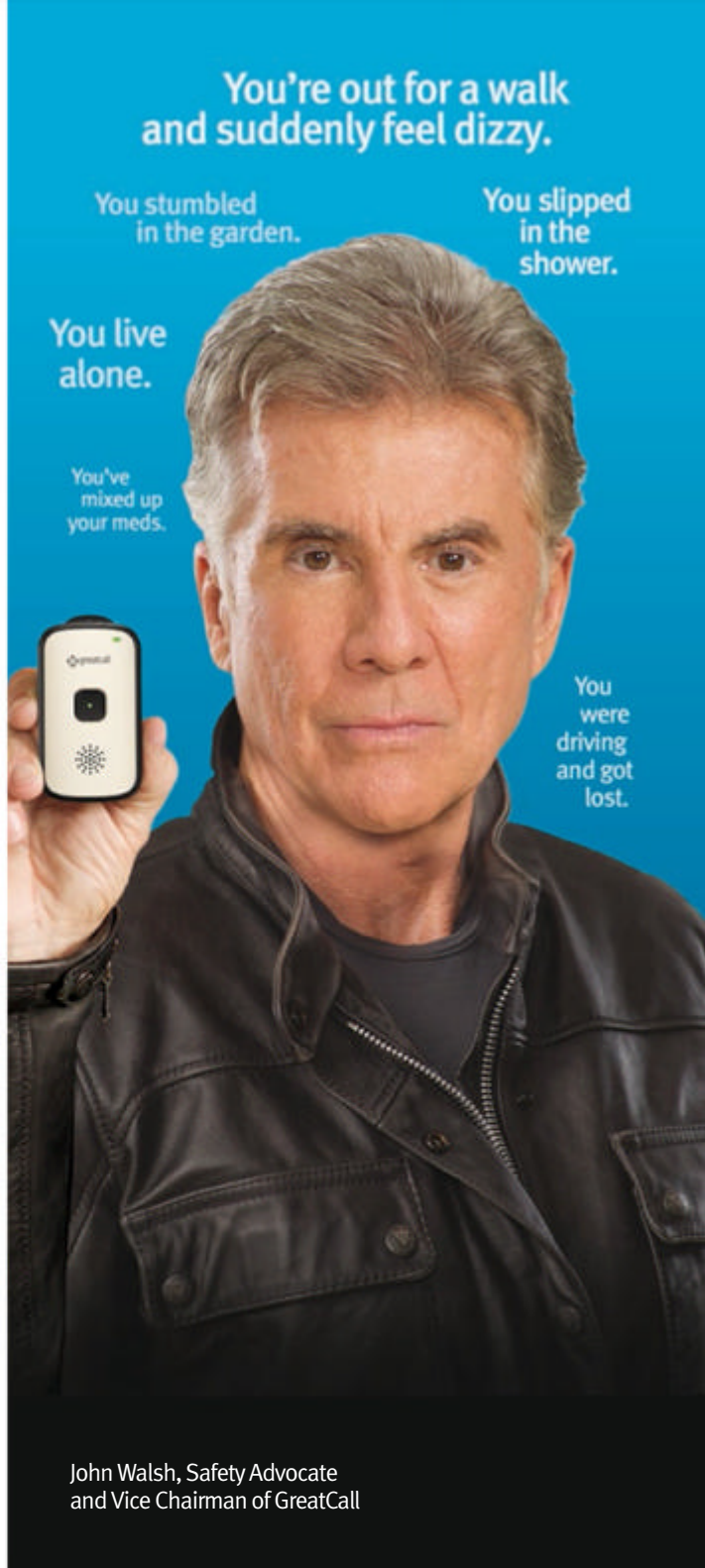
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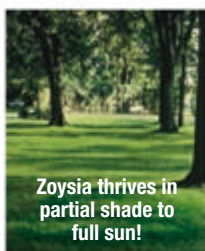
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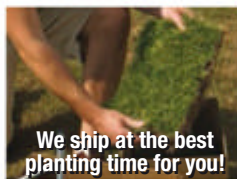
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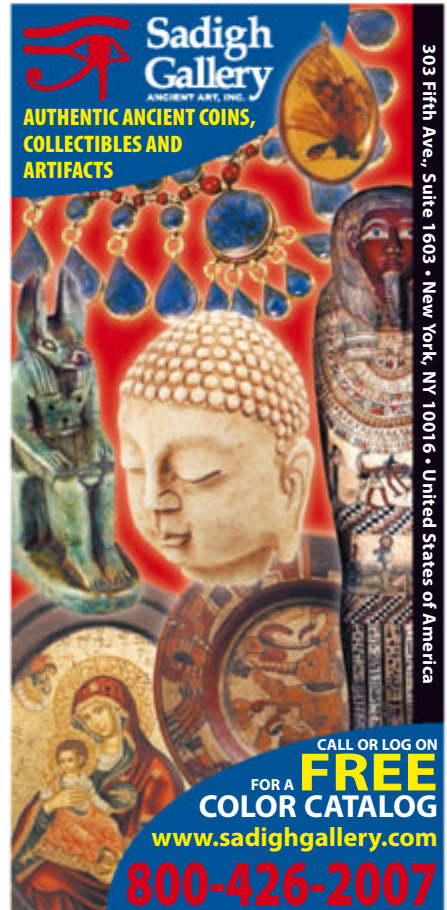
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## Grand Canyon

CONTINUED FROM PAGE 69

failed to address is where the water to support a new development on such arid land would come from. Whitmer says that the water issue was "incorporated in the joint planning process" with input from the Navajos. But according to Clark, "Unlike the South Rim aquifer, the groundwater reserves under the western edge of the reservation remain largely unassessed." It is entirely likely, he adds, that massive drilling of wells there could dry up springs and oases in the 60-odd miles of the Grand Canyon that the plateau overlooks.

Another unresolved question is exactly where the boundary of the national park lies. The developers and some Navajo leaders claim that the dividing line is the high-water mark of the Colorado River. But the park service, which opposes the development, insists that the boundary stretches well beyond that—a quarter mile up the eastern slope from river's edge. That would effectively prohibit the elevated walkway, gift shop and café planned for the tramway terminus. Each side cites documents dating back as far as establishment of the Navajo Reservation in 1868 and the Arizona statehood act of 1912. The matter hasn't gone to the courts. But Uberuaga, the park's director, has vowed to fight for the park's view in litigation if necessary.

After three and a half hours on the rutted, zigzagging road, we reached the confluence overlook. I had never been there before; the vistas stretching beneath me took my breath away. I sat on the edge of a limestone cliff and stared down at the confluence, 3,000 feet below me to the south. A few specks in the river were rafters approaching the junction with the Little Colorado. Only the occasional whine of a helicopter on a scenic tour marred the silence. For long minutes, I gazed at the buttes, pinnacles and side canyons receding into the distance. Here, I thought, were the great loneliness and sublimity that had so captivated Teddy Roosevelt.



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I pulled out the diagram from the Confluence Partners website showing the 420 acres of infrastructure planned for the upper terminus, and in my mind's eye tried to map it onto the serene emptiness of the plateau. I envisioned a paved circle loop, surrounded by a boutique hotel here, a shopping plaza there, a restaurant over there, an amphitheater next to it, adjoined by the Native American visitor center—with the ceaseless thrum of the tramway for background music.

Renae Yellowhorse had brought three granddaughters—10-year-old Lamia, 9-year-old Jaderrae, and 4-year-old Evangeline—for their first visit to the overlook. At first the kids seemed intimidated, even scared, cowering behind their grandmother's skirts. But then Yellowhorse produced some cornmeal, which the kids sprinkled at the edge of the canyon. "The wind carries it away with our prayers," said Yellowhorse.

Then the girls performed a hoop dance, symbolic of the forces of nature. Afterward, Yellowhorse sat near the rim and addressed us, her companions on this journey, in a soft monologue. "I want to share a dream I had last week," she said. "I dreamed about buildings here, all over. Tepees, even though we never lived in tepees. Garish signs. 'Buy your Indian moccasins here'—except they were made in Taiwan. In my dream, they were shutting down the tram. They were tearing down the buildings. Finally they listened to us. But I didn't know how to feel."

She took a deep breath, starting to choke up. "They come in with their empty promises, dividing the people. It hurts me very much. If they come in and build their walls, they'll tear out the heart of mother earth."

"The Holy Beings will be distracted by the lights and the noise. They won't be able to hear our prayers."

Yellowhorse gestured at her granddaughters, sitting in mute attention. "I want them to see this place just as their ancestors did. The same rocks, the same water. And I want their grandchildren to see it, too. To know the Holy Beings are here."

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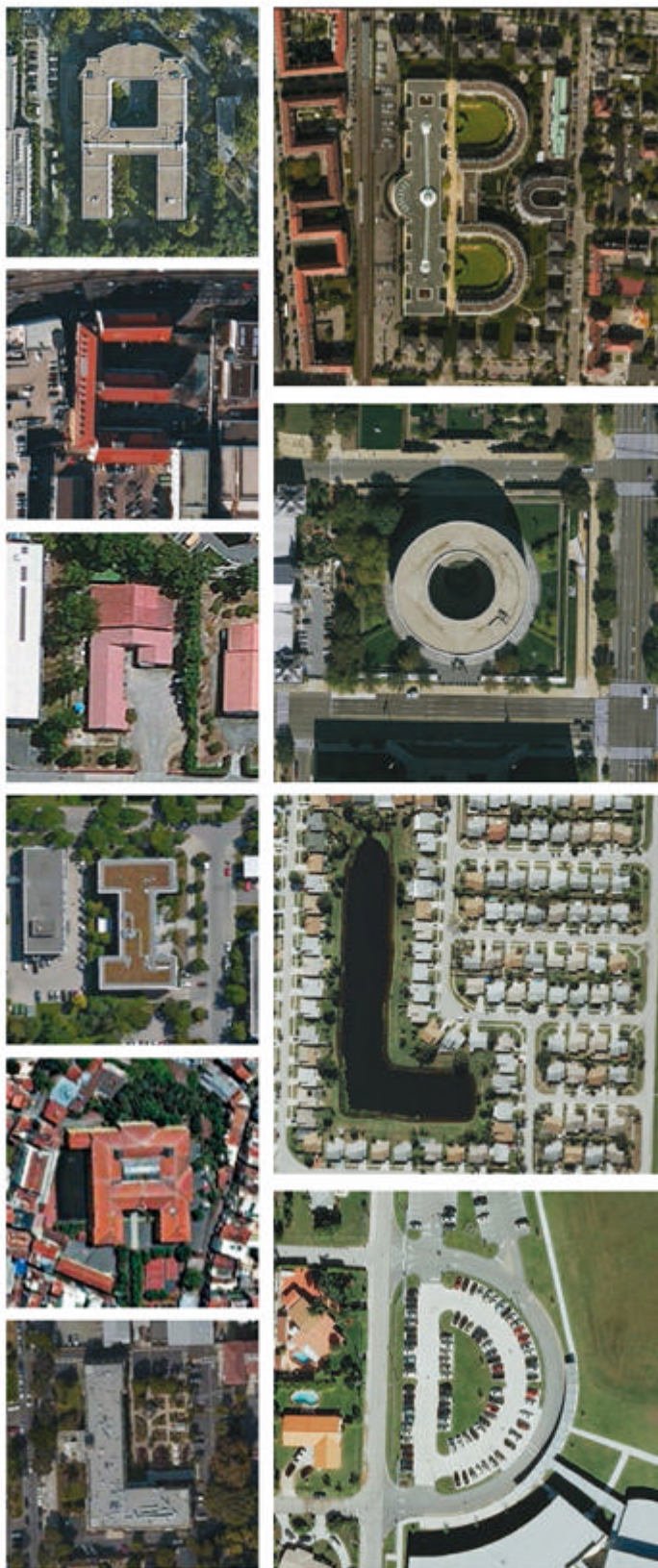
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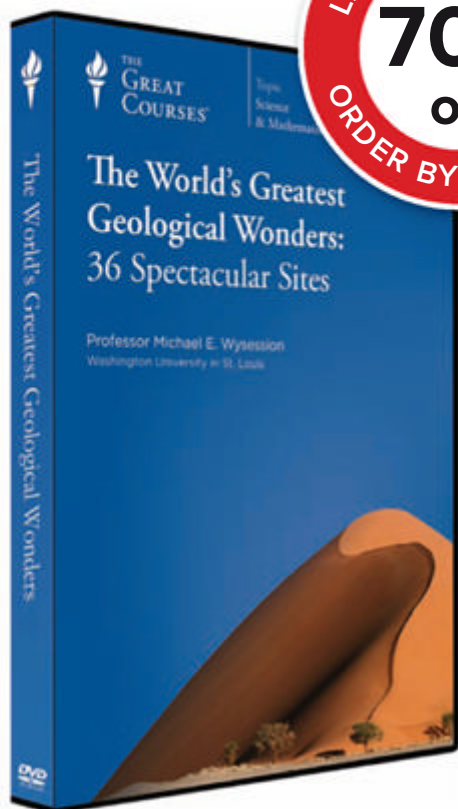
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